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TO READERS AND CORRESPONDENTS.

The following works have been received:—

Some Account of the last Yellow Fever Epidemic of British Guiana. By Daniel Blair, M. D., Surgeon General of British Guiana. Edited by John Davy, M. D., F. R. S. L. and E., Inspector General of Army Hospitals. London, 1850. (From the Author.)

An Inquiry how far Consumption is Curable; with Observations on the Treatment, and on the Use of Cod Liver Oil and other Remedies; with Cases. By James Turnbull, M. D., Physician to the Liverpool Infirmary. Second edition, enlarged. London, John Churchill, 1850.

On the Health of London, during the six months terminating March 30th, 1850. By John Webster, M. D. Read before the Westminster Medical Society. London, 1850. (From the Author.)

Observations on Chronic Hydrocephalus, Acquired, Sanguineous, and Congenital; with an Account of three cases in which the Head was punctured, and an Examination of the Effects of the Operation. By Francis Battersby, M. B., &c., Surgeon to the Dublin Institution for the Diseases of Children. Edinburgh, 1850. (From the Author.)

Anormal Nutrition in the Human Articular Cartilages, with Experimental Researches on the Lower Animals. By P. Redfern, M. D., M. R. C. S., &c. Edinburgh, 1850. (From the Author.)

The Diseases of the Breast and their Treatment. By John Birkett, F. R. C. S., Assistant Surgeon to Guy's Hospital. London, 1850. (From the Author.)

Surgical Anatomy. By Joseph Maclise, Surgeon. With coloured plates. To be complete in four parts. Part III. Philadelphia, Lea & Blanchard, 1850. (From the Publishers.)

General Therapeutics and Materia Medica; adapted for a Text Book. By Robley Dunglison, M. D. 182 illustrations. Fourth edition, revised and improved. 2 vols. Philadelphia, Lea & Blanchard, 1850. (From the Publishers.)

Of the Causes, Nature and Treatment of Palsy and Apoplexy; of the Forms, Seats, Complications and Morbid Relations of Paralytic and Apoplectic Diseases. By James Copland, M. D., F. R. S., &c. &c. Philadelphia, Lea & Blanchard, 1850. (From the Publishers.)

Human Physiology. By Robley Dunglison, M. D., Prof. Institut. Med. in Jefferson Medical College. With nearly five hundred illustrations. Seventh edition, thoroughly revised and extensively modified and enlarged. 2 vols. 8vo. Lea & Blanchard, 1850. (From the Publishers.)

Observations on Certain of the Diseases of Young Children. By Charles D. Meigs, M. D., Professor of Midwifery, &c. &c. Philadelphia, Lea & Blanchard, 1850. (From the Publishers.)

A Practical Handbook of Medical Chemistry. By John E. Bowman, Demonstrator of Chemistry in King's College, London, &c. &c. Philadelphia, Lea & Blanchard, 1850. (From the Publishers.)

Elements of Medical Jurisprudence. By Theodoric Romeyn Beck, M. D. LL. D., &c. &c., and John B. Beck, M. D., Prof. Mat. Med. and Med. Jurisp. &c. &c. Tenth edition, Vol. I. Little & Co., Albany, 1850. (From the Authors.)

The Anatomy, Physiology, and Pathology of the Eye. By Henry Howard, M. R. C. S. D. Montreal, 1850. (From the Author.)

Mental Hygiene, or an Examination of the Intellect and Passions; designed to show how they Affect and are Affected by the Bodily Functions, and their Influence on Health and Longevity. By William Sweetser, M. D., Prof. Theory and Prac. of Med. in Bowdoin, Castleton, and Geneva Med. Colleges. Second edition, re-written and enlarged. New York, Geo. P. Putnam, 1850.

Elementary Chemistry, Theoretical and Practical. By George Fownes, F. R. S., Prof. Pract. Chem. in Univ. Coll., London. Edited, with additions, by Robert Bridges, M. D., Prof. Chem. in Philad. Coll. Pharm. Third American from a late London edition. With numerous wood engravings. Philadelphia, Lea & Blanchard, 1850. (From the Publishers.)

Summary of the Transactions of the College of Physicians of Philadelphia, from Feb. 5th to July 2d, 1850, inclusive. No. II. Vol. III.

The New Jersey Medical Reporter, and Transactions of the New Jersey Medical Society. Edited by Joseph Parrish, M. D. July, 1850.

Transactions of the Medical Association of South Central New York at the Annual Meeting held at Elmira, June, 1850. Auburn, 1850. (From Dr. Geo. W. Bradford.)

Minutes of the Proceedings of the Medical Society of the State of North Carolina, at its first Annual Communication, held in Raleigh, April, 1850. Raleigh, 1850. (From Dr. Strudwick.)

Proceedings of the Twenty-first Annual Meeting of the Tennessee Medical Society, held at Murfreesborough, April, 1850.

Materia Medica and Therapeutics; with ample Illustrations of Practice in all the Departments of Medical Science, and very Copious Notices of Toxicology, suited to the Wants of Medical Students and Practitioners. By THOMAS MITCHELL, M. D., Prof. Theory, and Pract. Med. in Philad. Coll. Med., &c. &c. &c. Philadelphia, Lippincott, & Grambo Co., 1850. (From the Publishers.)

The Principles and Practice of Dental Surgery. By CHAPIN A. HARRIS, M. D., D. D. S., Prof. Princ. and Pract. of Dental Surgery in the Baltimore College of Dental Surgery. Fourth ed. revised, modified, and greatly enlarged, with two hundred illustrations. Philadelphia, Lindsay & Blakiston, 1850. (From the Publishers.)

The Diagnosis, Pathology, and Treatment of the Diseases of the Chest. By W. W. GERHARD, M.D., Lecturer on Clinical Medicine to the Univ. of Penn. Third edition, revised and enlarged. Philadelphia, Barrington & Haswell, 1850. (From the Publishers.)

A Treatise on the Diseases and Physical Education of Children. By JOHN EBERLE, M. D. Fourth edition, with Notes and large Additions by THOMAS D. MITCHELL, M. D. Philadelphia, Lippincott, Grambo & Co., 1850. (From the Publishers.)

Report of the Eastern Asylum in the city of Williamsburg, Virginia, 1849. Richmond, 1850. (From John M. Galt, M. D., Physician to the Institution.)

Twentieth Annual Report of the Belfast District Asylum for the Insane Poor of the counties of Antrim and Down, and county of the town of Carrickfergus, for the year ending 31st March, 1850. Drawn up by the Resident Physician. Established A. D. 1829. Belfast, 1850. (From Robert Stewart, M. D., Resident Physician.)

Sixty-third Annual Report of the Regents of the University of the State of New York. Made to the Legislature March 1, 1850. (From Dr. Beck.)

Report of the Medical Department of the University of Pennsylvania for the year 1850. By the Medical Faculty. Philadelphia, 1850.

An Address before the Medical Society of the State of North Carolina, at its first Annual Communication, in Raleigh, April, 1850. By EDMUND STRUDWICK, M. D. Raleigh, 1850.

Progress in Medicine; an Oration delivered before the Piedmont Medical Society, at its Spring Meeting, in Shelby county, N. C., March 29, 1850. By JOHN A. DICKSON, M. D. Asheville, N. C., 1850. (From the Author.)

Valedictory Address delivered before the Graduating Class of the Baltimore College of Dental Surgery, at the annual commencement for the session 1849–50. By T. P. HULLIEN, M. D., D. D. S. Baltimore, 1850.

Address delivered before the Graduating Class of the Baltimore College of Dental Surgery, at the tenth annual commencement. By ELISHA TOWNSEND, D. D. S. Baltimore, 1850.

An Address at the Dedication of the New Building of the Massachusetts Eye and Ear Infirmary, July 3, 1850. By EDWARD REYNOLDS, M. D. Boston, 1850. (From the Author.)

Der Aderlass in der Lungenentzündung. Von Dr. JOSEPH DIETL. Wien, 1848. (From Dr. Oppenheim.)

Cholera: with Reference to the Geological Theory; a Proximate Cause—a Law by which it is governed—a Prophylactic. By JOHN LEA. Cincinnati, 1850.

The Obstetrical Extractor—a paper read before the Chicago Medical Society. By JOHN EVANS, M. D. (From the Author.)

A brief History of an exciting Controversy on the subject of Assimilated Rank in the Navy of the United States. By W. S. W. R. Philadelphia, 1850. (From Dr. Ruschenberger.)

The Gallery of Illustrious Americans, containing the Portraits and Biogra-

phical Sketches of twenty-four of the most eminent Citizens of the Republic since the Death of Washington. Daguerreotypes by BRADY, engraved by D'AVIGNON. Edited by C. EDWARDS LESTER, assisted by an association of Literary Men. New York, 1850.

On Acclimation; an Inaugural Essay, presented for the Degree of Doctor of Medicine in the University of Pennsylvania. By PHILIP C. WILLIAMS, M. D., of Winchester, Va. (From the Author.)

Practical Views on Medical Education; submitted to the members of the American Medical Association by the Medical Faculty of Harvard University. Boston, 1850. (From Dr. J. Bigelow.)

Annual Circular of the Medical Department of the University of Louisiana, session 1850–51. New Orleans, 1850.

Eleventh Annual Circular of the Baltimore College of Dental Surgery, session 1850–51. Baltimore, 1850.

Catalogue and Circular of the Medical College, State of South Carolina, session 1850-51. Charleston, S. C., 1850.

Medical College of Ohio. Annual announcement of Lectures for the session of 1850–51, and Catalogue of Graduates for the session 1849–50. Cincinnati, 1850.

College of Physicians and Surgeons of the Iowa University, located in the city of Keokuk, Iowa. Annual Catalogue of the College, session 1849–50, and Circular for the ensuing session. Keokuk, 1850.

Starling Medical College. Annual announcement of the Course of Lectures of 1850–51, and Catalogue of Graduates for the session 1849–50. Columbus, 1850.

Annual Circular of the Medical Faculty of the Washington University of Baltimore, session 1850–51. Baltimore, 1850.

The following journals have been received in exchange:—

Gazette Médicale de Paris. Feb., March, April, May, and June, 1850—except No. 23.

Revue Médicale Francaise et Etrangère. Per J. B. CAYOL, D. M. P. Jan., Feb., March, April, May, and June, 1850.

Journal des Connaissances Médico-Chirurgicales. Publié par le Dr. A. MARTIN LAUZER. Feb., March, April, May, June, July, 1850.

Journal des Connaissances Médicales Pratiques et de Pharmacologie. Jan., Feb., March, April, 1850.

Annales Médico-Psychologiques. Journal destiné à recueillir tous les documents relatifs à l'aliénation mentale, aux névroses et à la médecine légale des aliénés. Par MM. les Docteurs BAILLARGER, BRIERRE DE BOISMONT, et CERISE. Jan., April, 1850.

The Edinburgh Medical and Surgical Journal. July, 1850.

The London Medical Gazette. June, July, August, 1850.

The British and Foreign Medico-Chirurgical Review. July, 1850.

The Journal of Psychological Medicine and Mental Pathology. Edited by FORBES WINSLOW, M. D. July, 1850.

London Journal of Medicine. July, August, September, 1850.

Monthly Journal of Medical Science. July, Aug., Sept., 1850.

The Medical Times. July, August, Sept., 1850.

The Provincial Medical and Surgical Journal. Edited by W. H. RANKING, M. D., and J. H. WALSH, Esq. June, July, August, 1850.

The Half-Yearly Abstract of the Medical Sciences. By W. H. RANKING, M. D. July, 1850.

The Retrospect of Medicine, being a Half-Yearly Journal, containing a retrospective view of every discovery and practical improvement in the Medical Sciences. Edited by W. BRAITHWAITE. January—June, 1850.

British American Medical and Physical Journal. Edited by ARCHIBALD HALL, M. D. July, August, 1850.

The Dublin Quarterly Journal of Medical Science. August, 1850.

The London Medical Examiner, Monthly Review, and Statistical Journal of Practical Medicine. Nos. 1, 2, 3, 4, 5, 6, 7.

The Dublin Medical Press. July, Aug., Sept., 1850.

Zeitschrift für die Gesammte Medicin. Herausgegeben von F. W. Oppenheim. Sept., Oct., Nov., Dec., 1849. Jan., Feb., 1850.

Beitrage zur Heilkunde herausgegeben von der Gesellschaft prachscher Aerbze in Riga. Ester Band-Riga, 1849.

Jenaische Annalen für Physiologie und Medicin. Herausgegeben von O. Domrich, E. Martin, F. Ried, M. J. Schleiden, E. Schmidt, A. Siebert, Professors in der Universital Jena. Redegerel von T. V. Hessling. Band 1. Heft 1, 2, 3. Jena, 1849.

Nordamerikis-cher Monatsbericht für Natur-und Heilkunde Redigirt von Dr. W. Keller und Dr. H. Tiedemann. July, Aug., Sept., 1850.

Southern Medical and Surgical Journal. Edited by J. P. Garvin, M. D. July, August, September, 1850.

The New York Journal of Medicine and the Collateral Sciences. Edited by S. S. Purple, M. D. July, 1850.

The Medical Examiner. Edited by F. G. Smith, M. D. July, Aug., Sept., 1850.

The Charleston Medical Journal and Review. Edited by Drs. D. J. Cain and F. P. Porcher. July, Sept., 1850.

The Boston Medical and Surgical Journal. Edited by J. V. C. Smith, M. D. July, Aug., Sept., 1850.

Buffalo Medical Journal. Edited by Austin Flint, M. D. July, Aug., Sept., 1850.

The North-Western Medical and Surgical Journal. Edited by Dr. J. Evans and E. G. Meek. July and August, 1850.

St. Louis Medical and Surgical Journal. Edited by Drs. M. L. Linton, J. S. Moore, Wm. M. McPheeters, and J. B. Johnson. May and June, 1850.

The Ohio Medical and Surgical Journal. Edited by S. Hanbury Smith, M. D. July, Sept., 1850.

The New Orleans Medical and Surgical Journal. Edited by A. Hester, M. D. Sept., 1850.

The American Journal and Library of Dental Science. Edited by Drs. C. A. Harris, A. Westcott, and E. Maynard. April, July, 1850.

The American Journal of Science and Arts. Conducted by Profs. B. Silliman and B. Silliman, Jr., and J. D. Dana. July, Sept., 1850.

Transylvania Medical Journal. Edited by E. L. Dudley, M. D. June, 1850.

The Western Journal of Medicine and Surgery. Edited by L. P. Yandell, M. D., and T. S. Bell, M. D. July, August, 1850.

The New York Medical Gazette and Journal of Health. Edited by D. M. Reese, M. D. July, Aug., Sept., 1850.

The New Hampshire Journal of Medicine. Edited by Edward H. Parker, M. D. August, 1850.

The American Journal of Insanity. Published by the New York State Lunatic Asylum, Utica. July, 1850.

The Western Lancet and Hospital Reporter. Edited by L. M. Lawson, M. D., and George Mendenhall, M. D. July, August, Sept., 1850.

The Northern Lancet. Edited by F. J. D'Avignon, M. D., and H. Nelson, M. D. June, July, 1850.

The Western Medico-Chirurgical Journal. Edited by Drs. J. F. Sanford and S. G. Armor. Sept., 1850.

Communications intended for publication, and Books for Review, should be sent, *free of expense*, directed to Isaac Hays, M. D., Editor of the American Journal of the Medical Sciences, care of Messrs. Lea & Blanchard, Philadelphia. Parcels directed as above, and sent (carriage paid) under cover, to John Miller, Henrietta Street, Covent Garden, *London;* or to John Wiley, or G. P. Putnam, *New York;* or W. D. Ticknor, *Boston;* or M. Hector Bossange, Lib. quai Voltaire, No. 11, *Paris*, will reach us safely and without delay. We particularly request the attention of our foreign correspondents to the above, as we are often subjected to unnecessary expense for postage and carriage.

All remittances of money, and letters on the *business* of the Journal, should be addressed *exclusively* to the publishers, Messrs. Lea & Blanchard.

☞ The advertisement-sheet belongs to the business department of the Journal, and all communications for it should be made to the publishers.

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XIV. Surgical Anatomy. By Joseph Maclise, Surgeon. With coloured plates. Part third. Philadelphia: Lea & Blanchard, 1850. - - - - 415
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A Practical Handbook of Medical Chemistry. By John E. Bowman, Demonstrator of Chemistry in King's College, London, &c. pp. 288. Philadelphia: Lea & Blanchard, 1850. - - - - - - - - 443
XXI. Human Physiology. By Robley Dunglison, M. D., etc. etc. "Vastissimi studii primas quasi lineas circumscripsi."—*Haller*. With nearly five hundred illustrations. Seventh edition, thoroughly revised, and extensively modified and enlarged. 2 vols. 8vo. pp. 692–736. Lea & Blanchard, 1850. - - - - - - - - - - - - - 445
XXII. Report of the Trial, "The People *v.* Dr. Horatio N. Loomis for Libel." Tried at the Erie County Oyer and Terminer, June 24th, 1850, &c. &c. Justice Mullett presiding. John Treahor and Leander J. Roberts, Associate Justices. Reported by Frederick T. Parsons, Stenographer. 8vo. pp. 50. Buffalo, 1850. - - - - - - - - - 445

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XXIII. The Principles and Practice of Dental Surgery. By Chapin A. Harris, M. D., D. D. S., Professor of Principles and Practice of Dental Surgery in the Baltimore College of Dental Surgery, Fellow of the Am. Soc. of Dental Surgery, &c. &c. Fourth edition, revised, modified, and greatly enlarged. With 200 illustrations. 8vo. pp. 803. Philadelphia: Lindsay & Blakiston, 1850. - - - - - - - - - - - 451

XXIV. Materia Medica and Therapeutics; with ample Illustrations of Practice in all the Departments of Medical Science, and very Copious Notices of Toxicology, suited to the Wants of Medical Students and Practitioners. By Thomas D. Mitchell, A. M. M. D., Professor of the Theory and Practice of Midwifery in the Philadelphia College of Medicine, etc. etc. 8vo. pp. 736. Philadelphia: Lippincott, Grambo & Co., 1850. - - - - - - - - - - - - - - - - 452

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THE

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FOR OCTOBER 1850.

ART. I.—*Statistics of the Mortality of Baltimore, during a period of fourteen years, from* 1836 *to* 1849 *(inclusive).* By LEVIN S. JOYNES, M. D.

HAVING interested myself recently in investigating the mortality of Baltimore, as exhibited in the annual reports of the Board of Health, I have thought it might not be a useless task to lay the results of my investigations before the profession, as a contribution to medical statistics. But it is proper to state at the outset that the materials at my command are far from being as full and perfect as could be wished; so that it is impossible, as yet, to exhibit the "vital statistics" of Baltimore in so satisfactory a manner as has been done for other cities; and in particular for Philadelphia, by Dr. G. Emerson. It is to be hoped that the adoption of a better plan of registration will facilitate the accomplishment, and enhance the value, of future inquiries of this kind; and while the profession, represented by their national association and their State societies, are so anxiously striving to procure legislative action on this subject, it is right that the imperfections of existing systems of registration should be known. Such knowledge cannot but stimulate the zeal, and conduce to the success, of their efforts. The Medical and Chirurgical Faculty of Maryland have earnestly joined in these endeavours for the attainment of an object so important; but although their memorial received the favourable consideration of a committee of the last legislature, the report of that committee did not lead to any enactment on the subject.

There is at present no registration of births or marriages in Baltimore. The statistics of the mortality are derived from the reports of interments, made to the Board of Health, and by them regularly published. In compiling the present paper, I have used the annual reports of the board, from the earliest period for which they could be procured. They embrace a period of fourteen years, beginning with 1836 and ending with 1849. Some of the

more important details, however, are only given in the reports of the last five years. The aggregate number of deaths recorded in this official statement amounts to 41,911.

Before proceeding to analyze the bills of mortality, it is necessary to determine the number and composition of the population to which those documents refer. It is only after knowing the *number living* that we can profitably seek to ascertain the *number dying*, and their various modes of death.

The only enumeration of the inhabitants of Baltimore, during the period embraced in these reports, is that contained in the national census of 1840. The total population of the city at that time was 102,513.

Of this number the males amounted to	47,283
" " females "	55,230

showing an excess in favour of the females of 7947. Thus, in the general population, the proportion of the two sexes is expressed by the numbers 100 : 117, or 20 : 23. This gives a greater female excess than usual; the ordinary proportion stated by writers on medical statistics being 21 females for every 20 males.

But the population of Baltimore is made up of three distinct classes—whites, free coloured persons, and slaves—and we must regard each class separately. The following table exhibits the number of the white population, classed according to sex and age. It also shows the relative proportion of the two sexes at each designated period of life.

	Under 5 years.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 and upwards.	Total.
Males	6338	4498	3930	4216	8525	5728	2953	1556	762	236	70	10	3	38,825
Females	6218	4637	4410	5167	9566	5544	3275	2058	1098	392	107	17	7	42,496
Total at each age .	12556	9135	8340	9383	18091	11272	6228	3614	1860	628	177	27	10	81,321
Excess of Females		139	480	951	1041		322	502	336	156	37	7	4	3671
Excess of Males	120					184								

It appears from this table that, in the white population, amounting in the whole to 81,321, the females outnumber the males by 3671; the proportion of the two sexes being as 100 males to 109 females, or as 20 to 22 (nearly). The preponderance of females, therefore, although less than in the general population, is still greater than is usually found to exist.

It will be seen that the excess of females exists at every period of life designated in the table but two; viz., under five years, and between thirty and forty. The following statement will exhibit the proportional excess of males and females at the different ages. (It is proper to observe that, in this and other comparative statements, I have followed the example of Dr. Emerson in taking the *larger numbers* as the standard of comparison.)

Under	5	years	the excess of	*males* is	. .	1.89 per cent.
Between	5 and 10	"	"	*females*	. .	3.00 "
"	10 and 15	"	"	"	. .	10.88 "
"	15 and 20	"	"	"	. .	18.40 "
"	20 and 30	"	"	"	. .	10.88 "
"	30 and 40	"	"	*males*	. .	3.21 "
"	40 and 50	"	"	*females*	. .	9.83 "
"	50 and 60	"	"	"	. .	24.39 "
"	60 and 70	"	"	"	. .	30.60 "
"	70 and 80	"	"	"	. .	39.80 "
"	80 and 90	"	"	"	. .	34.58 "
"	90 and 100	"	"	"	. .	41.18 "
Over 100		"	"	"	. .	57.14 "

The preponderance of males under the age of five years is merely the remnant of that which existed at birth; and the diminution of this excess from 6 or 7 per cent. (the usual ratio at birth) to 1.89 per cent., places in a striking point of view the greater mortality of males during infancy. The continued operation of the same causes soon produces an excess in favour of the females, which increases up to the age of twenty years. Now, however, the increased danger to female life, consequent on child-bearing, produces a change in the opposite direction; the excess of females between the ages of twenty and thirty being little more than half of that which existed in the preceding period; and, between thirty and forty, there is a preponderance of more than three per cent. on the side of the males. In addition to the cause just assigned, this change in the proportion of the sexes is doubtless in part to be accounted for by the large number of young men born elsewhere, who every year take up their residence in the city with the view of engaging in commercial and other pursuits. After the age of forty years, the female preponderance returns, and continues to increase pretty constantly up to the latest period of life—attaining its maximum in the small number remaining above 100 years.

The *coloured population* of Baltimore amounts to 21,192, being something less than twenty-one per cent. of the whole. Of this number there are free, 17,980; slaves, 3212. The following tables exhibit the numbers at the different ages designated in the census, the proportion of the sexes, &c.

Free Coloured Population.

	Under 10 years.	10 to 24.	24 to 36.	36 to 55.	55 to 100.	100 and upwards.	Total.
Males	2172	1873	1590	1279	369	9	7,292
Females . . .	2254	3076	2727	1861	740	30	10,688
Total at each age	4426	4949	4317	3140	1109	39	17,980
Female Excess .	82	1203	1137	582	371	21	3396

Slave Population.

	Under 10 years.	10 to 24.	24 to 36.	36 to 55.	55 to 100.	100 and upwards.	Total.
Males	279	506	225	118	34	4	1166
Females . . .	365	952	453	214	62		2046
Total at each age	644	1458	678	332	96	4	3212
Female Excess .	86	446	228	96	28		880

In examining these tables, the same remarkable inequality in the proportion of the sexes, which Dr. Emerson has found to exist in the coloured population of Philadelphia, will be observed to hold good in that of Baltimore; and the disparity is still more striking among the slaves than among the free blacks. Thus, while among the latter there are 146 females for every 100 males, among the former the numbers are as 175 and 100 respectively. This excess of females is already remarkable in the first of the six periods of life designated in the tables. Of the free coloured population under ten years, the females exceed the males by nearly four per cent.; and among the slaves, the female excess is no less than twenty-three and a half per cent. Now if we refer to the table exhibiting the white population, we shall find that the number of male children under ten years is 10,836, and that of the females 10,855; the difference being only nineteen, a very small fraction of one per cent.

These striking facts appear to lead to the inference that the causes operating to produce a disproportionate mortality of male infants act with peculiar intensity upon the coloured population of large towns; and this is easily explicable by the influence of the unfavourable hygienic conditions by which this class of the population is, for the most part, surrounded. If, as a result of this influence, the mortality of the infants of each sex be increased in an *equal ratio*, the consequence is an increased disproportion in the numbers of those remaining. Thus, if in a given number of each sex, say 100, the ordinary mortality of the males be represented by 6, and that of the females by 4, the remaining numbers, 94 and 96, will stand to each other in the relation of 100 to 102 (nearly); but if the mortality of each sex be doubled, the resulting numbers, 12 and 8, taken from 100, will leave 88 and 92 as the surviving numbers; now these numbers stand to each other in the relation of 100 to 104½.

This is one probable explanation of the facts; but the records of mortality do not furnish the means of either demonstrating or disproving its correctness. Another view of the matter, however, suggests itself, which would form the subject of interesting inquiry under a well-conducted registration of births. Is the excess of male births among the negro population of large towns equal to that which is generally observed among whites? There is plausible ground for the conjecture that it is not. In Dr. Emerson's interesting paper "On

the causes operating in determining the proportion of the sexes at birth," contained in the number of this Journal for July, 1848, the following passage occurs (p. 83): "An attentive inspection of the very extensive reports made in several of the most enlightened countries of Europe, has proved to us most conclusively, that every influence operating in a community to maintain a high state of physical health and energy, leads to an increase in the proportion of male births; whilst, on the contrary, every agency, whether moral or physical, the effect of which may be to reduce the forces of organic life, will diminish such preponderance." Now such agencies, especially those of the physical class, which, combined together, constitute an unfavourable sanitary condition, are constantly operating upon the negro population of cities with much greater intensity than upon the mass of the white population. Their effects are conspicuously manifested in the higher rate of mortality existing among the former; and, according to the general law expressed in the above quotation, they should also operate to diminish the preponderance of male births.

It appears highly probable, therefore, that a smaller proportion of male births, and a higher infantile mortality, combine to produce the very remarkable disproportion which is found to exist in early life between the males and females of the coloured population. In the subsequent periods of life, other causes are no doubt brought into play, which tend to maintain and augment this disproportion—such as the greater demand for the labour of males in agricultural districts, whilst a larger number of females find employment in town as house-servants. A glance at the tables will suffice to show how great is the preponderance of females.

If we compare the different classes of the population with reference to *longevity*, we shall find the advantage very greatly in favour of the coloured inhabitants. In this respect, our tables furnish results entirely in accordance with those deducible from the census of the country at large. Among the white inhabitants, the proportion of those who have attained the age of 100 and upwards is 1 in 8,132; among the coloured inhabitants, it is 1 in 493; and, if we regard the free coloured and the slaves separately, the proportions are 1 in 461 and 1 in 803 respectively. We have here another illustration of a truth already well established by statistics—that there is no constant ratio between longevity and the ratio of mortality; for that class of the population of Baltimore which offers the lowest rate of mortality, contains the smallest proportional number of centenarians, and *vice versâ* (taking the coloured population as a whole). Probably, owing to the difficulty of determining the ages of the blacks, there is some exaggeration in the number of those who have attained an advanced age; but, making all due allowance on this score, the greater longevity of the negro race appears sufficiently well established.

If we institute a comparison between the two sexes in this respect, we find a much greater proportion of females than of males aged 100 and upwards,

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If we institute a comparison between the two sexes in this respect, we find a much greater proportion of females than of males aged 100 and upwards,

both in the white and the free coloured population. Among the slaves, the reverse holds good.

Mortality.—We have now to consider the mortality of the population of Baltimore, during a period embracing four years preceding, and nine following, that in which the census just analyzed was taken—making in all, with the year 1840 itself, a period of fourteen years. The following table gives the number of interments of each sex in the general population, in each of the fourteen years; it also shows the number belonging to each of the three classes of the population.

Years.	General Population.			White Population.	Coloured Population.		
	Males.	Females.	Total.		Free.	Slaves.	Total.
1836	1223	1150	2373	1674	595	104	699
1837	1422	1292	2714	1997	584	133	717
1838	1453	1238	2691	2019	526	146	672
1839	1324	1107	2431	1809	483	139	622
1840	1209	1027	2236	1712	413	111	524
1841	1302	1146	2448	1813	504	131	635
1842	1422	1233	2655	1969	569	117	686
1843	1341	1179	2520	1913	472	135	607
1844	1491	1388	2879	2242	512	125	637
1845	1566	1541	3107	2383	617	107	724
1846	1668	1585	3253	2495	590	168	758
1847	1966	1829	3795	3024	551	220	771
1848	2181	2052	4233	3312	649	272	921
1849	2317	2259	4576	3519	791	266	1057
Total.	21,885	20,026	41,911	31,881	7856	2174	10,030

It appears from the above table that the deaths of males outnumbered those of females by 1859, or 8½ per cent. But, if we compare the numbers for each year, we shall find considerable variation; the excess of male mortality being as low as 1.6 per cent. in 1845, and as high as 16.4 per cent. in 1839. (In these estimates, the still-born are excluded, the sexes of the still-born not being specified in the reports.)

Ratio of Mortality to the Population.—This can only be determined with certainty for the year 1840, inasmuch as that is the only year in the series for which the population of the city is ascertained. In that year (excluding the still-born, which amounted to 191), the number of deaths is found to be 1 in 50.13 of the general population. The number of still-born belonging to the three classes of the population not being distinguished in the reports of the Board of Health, we cannot determine with precision whether, and how far, the rate of mortality in 1840 varied in those classes. But, if we make the reasonable assumption that the still-births among the whites, free blacks, and slaves, were in proportion to their respective numbers, we find that the rate of mortality was as follows: in the white population, 1 in 52.11; in the free coloured 1 in 47.36; in the slave population, 1 in 30.59.

The rate of mortality for the year 1840, however, cannot be regarded as a

fair expression of the *average* proportion of deaths, since in that year the number of deaths was unusually small; being, indeed, less than in any other year in the series. It also appears, from the tables given by Dr. Emerson in the number of this Journal for July, 1848, that the mortality in Philadelphia was remarkably small in that year, having been proportionally lower than in any other year of the decennial series embraced in Dr. Emerson's calculations.

A very near approximation to the average ratio of mortality in Baltimore may be made, by assuming the population in 1840 to represent the *average* population during a series of nine years—including that year, the four years preceding, and the four years following—and by comparing with this population the average mortality of the nine years, excluding the still-born. By applying this method to the Philadelphia tables, I have found that the ratio of mortality, determined by calculation, varies but a very small fraction of one per cent. from that which the statistics establish.

Proceeding in this way, we find that the average rate of mortality for the nine years was,

In the general population,	. . . . .	1 in 45.42
" white "	. . . . .	1 in 46.40
" free coloured "	. . . . .	1 in 37.17
" slave "	. . . . .	1 in 26.59

These rates, although considerably higher than those of the healthy year 1840, are nevertheless extremely favourable to the salubrity of Baltimore, and will compare advantageously with those of other large towns, whether in this country or in Europe. They are even lower than those given for Philadelphia by Dr. Emerson, in the paper just now referred to, leaving out of the calculation the years in which epidemic cholera prevailed in that city. It must be born in mind, that neither of the years in which the cholera at its first visitation ravaged this country, is embraced in our series; and, as for the year 1849, the cases of cholera occurring in Baltimore, if any, were few in number.

The comparatively high rate of mortality among the coloured inhabitants is no less remarkable here than in other American cities, and finds abundant explanation in the miserably bad hygienic conditions in which the black population is for the most part placed.

Influence of the Seasons on Mortality.—It is only for the last five years of the series that we are able to determine the number of interments for each month separately. The following table exhibits the mortality of the general population for each month of those years, as well as that of the whites and blacks respectively.

	January.			February.			March.			April.			May.			June.		
	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.
1845	237	51	288	161	54	215	158	56	214	177	66	243	218	59	277	171	61	232
1846	219	66	285	235	68	303	288	90	378	187	47	234	173	62	235	227	69	296
1847	183	47	230	180	48	228	231	84	315	187	51	238	239	74	313	270	54	324
1848	289	74	363	272	67	339	256	76	332	220	71	291	290	74	364	325	68	393
1849	266	87	353	225	67	292	260	65	325	260	95	355	223	74	297	233	94	327
Total	1194	325	1519	1073	304	1377	1193	371	1564	1031	330	1361	1143	343	1486	1226	346	1572

	July.			August.			September.			October.			November.			December.		
	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.	Whites.	Col'd.	Total.
1845	250	66	316	238	62	300	177	45	222	193	59	252	193	78	271	210	67	277
1846	190	67	257	235	81	316	193	50	243	197	46	243	197	65	262	144	57	201
1847	379	83	462	447	88	535	250	65	315	207	59	266	237	63	300	214	55	269
1848	505	133	638	287	76	363	232	64	296	261	78	339	188	72	260	187	68	255
1849	488	143	631	436	124	560	348	92	440	328	90	418	219	57	276	233	69	302
Total	1812	492	2304	1643	431	2074	1200	316	1516	1186	332	1518	1034	335	1369	988	316	1304

The following table presents a more perspicuous view of the relative mortality of the different months, the aggregates for the five years being alone given, and the months being arranged according to the number of deaths reported in each, due allowance being made for the unequal length of the months. The short months are all equalized to thirty-one days. It will be seen that the order differs materially for the white and the coloured populations, although July and August stand at the head of the list, and December at the foot, in both cases.

White Population.	Coloured Population.	General Population.
1. July 1812	July 492	July 2304
2. August 1643	August 431	August 2074
3. June 1267	March 371	June 1624
4. September . . 1240	June 357	September 1566
5. January . . . 1194	November 346	March 1564
6. March 1193	May 343	January 1519
7. October . . . 1186	April 341	October 1518
8. February . . . 1177	February 334	February 1511
9. May 1143	October 332	May 1486
10. November . . . 1068	September 326	November 1414
11. April 1065	January 325	April 1406
12. December . . . 988	December 316	December 1304

The foregoing tables afford us data for determining the relative influence of the seasons on the mortality of the white and black races. Although the comparison shows that the summer months are most fatal to each race, and the winter months the least so, they prove that the proportion of deaths occurring in the warmest and the coldest seasons respectively, is different in the two classes. Thus, we find from the last table that the mortality of the white

population in the three winter months is 3359; in the three summer months it is 4722. For the negro population, the numbers are 975 and 1280. It appears, therefore, that for every 100 white persons dying in winter, about 141 die in summer; while for every 100 coloured persons who die in winter, the summer months destroy only 131. From an examination of the statistics given by Dr. Emerson, in his paper of July, 1848, I find that a similar and somewhat greater difference of proportion occurs in Philadelphia. The winter and summer interments of the whites are as 100 to 129; those of the coloured inhabitants as 100 to 116.

It also appears that the proportions of deaths occurring in spring and autumn are different—indeed quite reversed—in the two classes. Of the white population, a somewhat larger number (3494) dies in autumn than in spring (3401); while of the black population, the deaths in spring (1055) are rather more numerous than those occurring in the autumnal months (1004).

Mortality at Different Ages.—In the following table, the proportion of deaths occurring at different periods of life is exhibited. It embraces a series of five years, 1845–9, during which the total number of deaths, exclusive of still-born, was 17,330. In one column, the actual number dying at each age is given; and in another, the proportion in every 100 deaths.

Under 1 year	4436	equal to	25.59	per cent.
Between 1 and 2 years . .	1886	"	10.88	"
" 2 and 5 " . .	1979	"	11.42	"
" 5 and 10 " . .	883	"	5.09	"
" 10 and 21 " . .	950	"	5.48	"
" 21 and 30 " . .	1652	"	9.53	"
" 30 and 40 " . .	1735	"	10.01	"
" 40 and 50 " . .	1316	"	7.59	"
" 50 and 60 " . .	824	"	4.75	"
" 60 and 70 " . .	727	"	4.19	"
" 70 and 80 " . .	578	"	3.34	"
" 80 and 90 " . .	269	"	1.55	"
" 90 and 100 " . .	79	"	0.45	"
100 and upwards . . .	26	"	0.15	"

(It should be stated that, for the year 1849, the deaths from 10 to 30 years are classified in a different mode from that adopted for the other four years; the division being into three periods; viz., 10 to 15, 15 to 20, and 20 to 30 years. In the table, however, this difference is, for the sake of convenience, disregarded, and the decennial periods, 10—20 and 20—30, are supposed to correspond to the periods 10—21 and 21—30, adopted in the reports of the four previous years.)

It appears from the above table that more that one-fourth of the whole number of deaths occurs within the first year of life; and that *nearly one-half* are under the fifth year—47.89 per cent. In order to acquire more exact

ideas in regard to this excessive infantile mortality, let us endeavour to ascertain what relation it bears to the population which it affects.

As the population under 5 years, in the year 1840, is given only for the whites, there being no subdivision of the first 10 years in the enumeration of the coloured inhabitants, it is impossible to ascertain with precision the whole number living under 5 years. But if we assume that, of the coloured inhabitants under 10 years, the numbers belonging to the first and last halves of this period have the same proportion as in the white population—and this assumption cannot lead us into any great error—we find that the whole number living under 5 years was 15,491; while that between 5 and 10 was 11,270. Now, if we apply to the whole number of deaths for that year (excluding of course the still-born) the proportions given in our last table for the mortality at different ages, the deaths under five years will have amounted to about 979, or more than 1 in 16 of the population living at that age; while in the next period of 5 years, the deaths will have numbered only 104, or about 1 in 108 of the population—the mortality being nearly seven times as great in the first period as in the second.

The mortality in the early years of life seems to have undergone a sensible increase within the last twenty years, in proportion as the city has become more densely populated, and the attendant causes of infantile disease have accumulated. According to a table given by Dr. Dunglison in his *Elements of Hygiene* (p. 114), the deaths in Baltimore under 5 years, in the years 1829, 1830, 1831, and 1833, were 43.84 per cent. of the whole number. We have just seen that in the last five years the proportion was 47.89 per cent. A similar increase appears to have taken place in Philadelphia. According to Dr. Emerson, in the decennial period 1821–30 the average proportion of deaths under 5 years was 38.6 per cent. of the whole; while in the four years 1837–40, it was no less than 49 per cent.

Particular Causes of Mortality.—It is in reference to this important aspect of our subject that the imperfection of the Baltimore statistics is most apparent. The sources from which the records of the Board of Health are made up, are not of that reliable character which would alone entitle us to receive their results with implicit confidence. No certificate of a physician is required as to the fact or the cause of death; the sextons of the different cemeteries being the authorities to which the board refers, not only for the number of weekly interments, but for the particular causes of death. The sextons, in their turn, derive their information on the latter point, sometimes from the physician; sometimes from the family of the deceased individual; sometimes, it may be, from nobody at all. We have here the ready explanation of the looseness of the classification presented in the annual returns of the Board of Health, and of the large number of cases in which the causes of death are "*unknown.*" The tables which follow must be received with the allowance due to the circumstances here stated; they are only to be regarded as presenting an approximation to the truth.

Following the example of Dr. Emerson, I have substituted for the classification of the Board of Health, that proposed at the meeting of the American Medical Association in 1847, by its committee on the subject of a Registration of Deaths, &c. I have, however, departed from the latter plan in some instances, where a strict adherence to it would be clearly wrong. For instance, "bilious fever" I have classed with remittent fevers—the two terms being considered, in all this region, as expressive of one and the same disease—and not with *enteritis*, to which it is referred in the nomenclature accompanying the report of the committee. "Congestive fever," which is improperly referred to "typhus" in the nomenclature, I have allowed to stand by itself, as indicating a particular form of periodical fever, the cases of which cannot be referred exclusively either to intermittent or remittent fevers, inasmuch as the congestive or "pernicious" fever may have either of the latter types. "Mumps," again, I have classed with other epidemic diseases, to which it properly belongs; quite as properly, without doubt, as diarrhœa and dysentery, which the plan of the committee places in the same class. Some other particulars in which I have departed from this plan it is unnecessary here to specify.

Tables showing the mortality from different diseases in Baltimore during fourteen years, viz., from 1836 *to* 1849 *inclusive.*

Diseases.	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	Total.
I. Zymotic Diseases (Epidemic, Endemic, and Contagious).															
Cholera	2		2	2	1		9	8	7	8	4	9	9	32	93
Cholera infantum	191	131	199	125	114	194	198	159	129	113	139	249	244	299	2475
Croup	47	60	45	51	31	26	42	71	56	80	91	127	165	163	1054
Diarrhœa	2			1			2		1			7	15	69	97
Dysentery	25	30	25	16	27	22	25	22	13	13	7	42	46	148	470
Erysipelas			1	4			3	5		4	14	9	10	19	69
Fever, congestive	3	2	6	4	7	10	7	11	4	4	7	1		2	68
" gastric		3	5	8	10	7	12	17	22	36	25	29	20	21	215
" intermittent	3	14	3	1	2	4	14	15	3	3	2	3	2	11	70
" remittent	83	32	37	46	49	38	68	40	44	56	70	44	53	68	728
" typhus	41	14	33	20	13	18	19	10	21	19	20	135	87	161	611
Hooping-cough	43	69	18	75	9	35	63	20	59	62	26	104	59	59	701
Influenza								9		1				4	14
Measles	1	141	4	57	32	6	103	4	1	20	114	7	74	31	595
Mumps			1			2					1		1	2	7
Scarlatina	39	134	141	112	71	74	27	56	370	288	132	166	407	155	2163
Small-pox	1	52	71	2	9	1	1			110	115	1	4	19	386
(Varioloid)		1	1		2							1	1	1	7
(Varicella)		4	2	1	3	1					1	1		1	14
Syphilis	1			1									1	1	4
Thrush	3	6	6	5	3	6	4	6	2		5	7	7	4	64
II. Sporadic, of Uncertain or General Seat.															
Abscess		2	4	1	2	4	2	4	1	1	1	4	2	4	32
Atrophy	27	32	30	18	3	5	5	2		1				1	124
Cancer	10	9	11	7	10	8	9	12	17	12	20	17	10	20	172
Dropsy	50	50	63	60	57	49	44	42	58	44	62	72	79	110	840
Gout		2				2	2	2	1	1	2	1	2	1	16
Hemorrhage	9	4	10	5	13	11	4	14	6	8	10	8	14	6	122
Inflammation	3	1	2	1	1	1	1					1	3		14
Malformation														1	1
Mortification	3	10	3	5	3	6	2	8	5	3	7	5	6	1	67
Scrofula	2	12	11	3	8	5	4	3	2	5	3	3	8	10	79
Sudden death	32	22	21	26	27	25	14	19	13	1	4	14	18	28	264
Tumour	2	1	4	1	5	1	2	3	8	3	9	1	8	1	49

Diseases.	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	Total.
III. Of the Nervous System.															
Apoplexy	22	20	25	29	25	19	22	17	23	16	28	22	19	24	311
Cephalitis, &c.	19	38	25	35	18	27	23	34	34	46	64	89	83	67	602
Chorea		1		1			1								3
Convulsions	92	90	89	68	55	84	84	58	73	81	73	81	106	97	1135
Delirium tremens									1	3	3	4	6	5	22
Epilepsy			1												1
Hydrocephalus	34	34	43	26	63	64	47	55	50	47	60	70	79	105	777
Insanity	3	7	6		5	3	6	8	9	2	12	15	9	12	97
Neuralgia							1		1			3	1	5	11
Nerves, affections of										2	1				3
Paralysis	13	12	18	12	24	13	1	21	21	28	16	35	34	46	294
Tetanus	4	3	2	3	1	1	5	4	3	1	3	2	5	6	43
Brain, diseases of		1				4	1	3		1	3	3	3	11	30
IV. Of the Organs of Respiration.															
Asthma	16	4	6	6	8	6	1	1	12	2	3	3	2	7	77
Bronchitis			1		3	5	4	5	6	5	11	8	8	7	63
Catarrhal fever	77	74	67	70	44	99	117	110	75	89	104	132	144	126	1328
Consumption	316	396	410	397	359	454	480	483	510	525	548	590	620	668	6756
Pleurisy	74	66	50	55	47	38	66	87	62	49	35	32	50	69	780
Pneumonia	8	8	9	10	9	7	10	16	31	16	11	51	61	38	285
Quinsy, &c.	4	7	7	4	2	3	1	3	1	7	1	4	1	1	46
Other affections of the throat	1	1	5	3	7	1	1	2	4	1	4	2	1		33
Diseases of the respiratory organs						1		1		1			3	4	10
V. Of the Organs of Circulation.															
Aneurism	1				1		1								3
Carditis								1							1
Organic diseases of the heart.	6	7	4	5	20	17	27	19	30	39	47	30	29	53	333
VI. Of the Digestive Organs.															
Colic	9	17	7	7	11	8	5	12	5	17	11	5	12	12	138
Colica pictonum		1					1	2						1	5
Dentition	16	28	21	15	21	28	29	29	16	19	42	69	92	102	527
Dyspepsia	4	1	3		4	3	2	1	3	1	6	9	5	8	50
Enteritis	15	10	14	20	21	23	36	46	37	34	51	60	67	47	481
Gastritis	3	3	3	2	1	1	3	4	6	2		3	2	4	37
Hernia	2				2	1	2	1	1		1	1	3		14
Intussusception													1		1
Peritonitis.														1	1
Ulceration of bowels										1	1				2
Worms	13	18	20	15	4	8	3	5	7	7	12	6	14	7	139
Diseases of stomach and bowels	1	1		1					1		1			4	9
Hepatitis		1					1	2	2			18	8	12	44
Jaundice	6	2	3	2	1	1	4	3	5		1	1	5	3	37
Liver, diseases of	18	13	13	10	11	7	13	6	13	13	16				133
Spleen, "					2			1							3
VII. Of the Urinary Organs.															
Diabetes												1			1
Cystitis	1	1		1		1				1	1	2	1		9
Gravel and stone	1	2	3	4	4	1	3	2	3	5	1	4		2	35
Nephritis	1	2		2		1	2	1		1	1	2	2	4	19
Prostate gland, diseases of		1													1
VIII. Of the Generative Organs.															
Childbirth	18	29	28	21	20	31	14	21	29	34	36	35	62	78	456
Puerperal fever														1	1
Amenorrhœa													1		1
Dysmenorrhœa		1													1
Inflammation of womb				2						1					3
Diseases of womb						1	1		2	1	2		1	2	8
IX. Of the Organs of Locomotion.															
Rheumatism	2	5	5	6	9	6	10	7	6	6	4	7	5	9	87
Joints, diseases of									2			1	2		5
Hip, "			1	1		1	2			1			1		7
Spine, "	1	3	3	2	8	3	3	9	3	10	8	3	5	8	69

Diseases.	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	Total.
X. Of the Integumentary System.															
Ulcer	1			2		1			1						5
Skin, Diseases of														1	1
Carbuncle					1										1
XI. Old Age.	137	93	94	118	96	94	98	120	93	97	129	144	156	171	1640
XII. External Causes.															
Accident	31	28	33	24	20	27	55	21	27	37	37	34	39	37	450
Burns and Scalds	14	15	16	12	16	10	7	8	10	13	8	12	17	15	173
Drowned	25	39	23	35	22	27	26	24	27	34	40	34	31	25	412
Executed												1			1
Cold	5	2	3	3	3	1	2	4	1	3	1	5	1	7	41
Heat (ictus solis)			3			2				1	1	1	2		10
Drinking cold water	1		28				2		1	5	9		1	9	56
Hydrophobia	1	2							1				2		6
Infanticide	1		2	1		1	1	2	4	3	2	1	1	1	20
Intemperance	50	35	47	30	35	29	18	15	10	20	16	16	23	33	377
Lightning								1			1		1		3
Murder			1						1	1					3
Poison	2	1		1	2		2	4		3	4	2	1	3	25
Strangulation								2	1				1		4
Suicide	10	5	6	3	7	3	5	1	5	6	4	3	5	4	67
Wounds, &c.	4	12	4	2	4	4	2	5	6	1	11	3	4	5	67
Fracture		1													1
Amputation								1				1	1		3
Bite of a dog							1								1
Sting of a spider	1						1		1	1					4
" wasp				1											1
Causes unknown { Infants	478	516	535	515	468	487	490	446	466	575	533	587	489	618	7203
Causes unknown { Adults	16	13	30	20	46	29	25	47	82	85	87	96	178	137	891
Still-born	181	196	215	171	191	201	178	187	214	211	257	381	372	411	3366

RECAPITULATION.

Class	I. Zymotic Diseases	9905
"	II. Of General or Uncertain Seat (Sporadic)	1780
"	III. Of the Nervous System	3329
"	IV. Of the Respiratory Organs	9378
"	V. Of the Organs of Circulation	337
"	VI. Of the Digestive Organs	1621
"	VII. Of the Urinary Organs	65
"	VIII. Of the Generative Organs	470
"	IX. Of the Organs of Locomotion	168
"	X. Of the Integumentary System	7
"	XI. Old Age	1640
"	XII. External Causes	1725
	Causes Unknown	8094
	Still-born	3366

Deducting from the aggregate mortality for the fourteen years (41,911) the deaths from causes unknown, or not specified, and the still-births, we have a remainder of 30,451, constituting the number properly subject to analysis. This large reduction, however, falls chiefly upon infantile diseases, less than one-ninth of the very large number of deaths by causes unknown belonging to the adult class; a proportion amounting probably to not more that one in twenty, (if so much) of the whole adult mortality.

Of the different classes of diseases, it will be observed that the greatest number of deaths is due to the "zymotic" class; the mortality under this head amounting to nearly one-third of the whole mortality from ascertained causes. Cholera infantum and scarlatina take the lead in this class; indeed,

with the single exception of consumption, their ravages are not equalled by those of any other disease in the whole catalogue.

Only 93 deaths are assigned to "cholera;" and, in the reports of the Board of Health, not one of these is attributed to Asiatic or epidemic cholera, all being set down to "cholera morbus" (except one in 1845, registered simply "cholera"). It is nevertheless by no means certain that Baltimore was so fortunate, during the year 1849, as to escape entirely the visitation of cholera which ravaged the cities north, south, and west of it. I have been informed by intelligent practitioners of Baltimore, that a few cases of well-marked Asiatic cholera were observed by them in their own practice; although it would seem that the deaths from this source were either reported to the Board of Health as cases of common cholera, or were set down to this latter disease, owing to the existence of some doubt as to their true nature. That something more than common cholera was present, is rendered highly probable by the fact that the deaths attributed to cholera morbus in 1849 (32 in number) exceed the aggregate of the four preceding years. It will be further noticed that the same unusual mortality from other bowel affections, which attended the prevalence of cholera elsewhere, existed to a considerable degree in Baltimore. The total number of deaths from cholera morbus, cholera infantum, diarrhœa, and dysentery, was 539, against 314 in the year 1848.

Although these facts show that the *cholera influence*, which diffused itself with such fatal intensity over the land, *was felt* in Baltimore, it cannot but appear singular that it did not manifest itself in a more virulent and epidemic form, while the disease was committing such fearful ravages at the Baltimore city and county almshouse, situated at a distance of less than three miles from the city. That there is nothing in the locality or other permanent conditions to account for this comparative immunity, is proved by the fact that Baltimore suffered severely from the epidemic of 1832, and to a less extent from that of 1834.

The deaths by cholera at the almshouse last year are not reported in the annual statement of the Board of Health, because the interments at that establishment are never reported in the city returns, although a portion of the paupers inhabiting it are sent thither from the city.

Among the fevers mentioned in the table, there is one which is rarely met with in bills of mortality; I allude to "gastric fever," which appears to be an important cause of mortality in Baltimore, no less than 215 deaths being assigned to it—an average of 15 per annum. Let it not be inferred, however, that this gastric fever is a disease peculiar in its nature, and limited in its prevalence to the city of Baltimore. The term is used by a portion of the profession, and by the public, who derive it from them, to designate what others call *typhoid fever*. This is true, at least, of the majority of the cases so termed; but, as the same designation is sometimes vaguely applied to other febrile affections accompanied by gastro-intestinal disturbance, I have thought it best to let all the cases termed gastric fever stand as they are registered,

since they cannot all be referred with certainty either to typhoid fever, or to any other given class.

Under the head of typhus fever are given, not only the cases registered as such, but a few cases of "nervous" and "inflammatory" fever, as well as all the cases of "ship fever," of which 106 fatal cases are recorded in the year 1847, 7 in 1848, and 14 in 1849.

In the second class, including diseases of general or uncertain seat, I have ranged under the head of "inflammation" only those cases in which the seat of the inflammation is not specified, and one case of ophthalmia, recorded in the year 1839. The cases set down to "atrophy" are all recorded as "marasmus" in the classification of the Board of Health. The gradual diminution of the annual numbers under this vague head must be regarded as indicative of a decided improvement, either in the diagnosis of physicians, or in the system of registration; and the same remark may be made of the *sudden deaths* recorded in the table.

Class III. Diseases of the nervous system. Under the head of "cephalitis," are included all the cases registered as "inflammation of the brain" and "phrenitis;" 30 cases are enumerated under the latter title, the remaining 572 under the former. No deaths from delirium tremens are registered prior to 1844; they are doubtless included under the general head of intemperance in a subsequent class. Of the 30 cases assigned to "diseases of the brain," 23 are recorded as "congestion oft he brain;" the remaining 7 "concussion."

Class IV. Diseases of the organs of respiration. The diseases belonging to this class are next in fatality to the zymotic class, the deaths due to them in fourteen years numbering 9378; and nearly three-fourths of this great number (6756) are the victims of consumption. Compared with this fearful aggregate, the mortality from any other disease appears trifling; no three other diseases in the catalogue have destroyed so many lives. What are the occasional ravages even of Asiatic cholera, with all its horrors, compared to the merciless and unceasing inroads of this greatest enemy of the human family? Baltimore, it is clear, can claim no advantage over the other great cities of this Union as regards the prevalence and fatality of phthisis. Indeed, according to the most reliable statistics, her condition in this respect is worse than the average. The deaths from consumption in Baltimore are in the proportion of 1 in 6.2 of the whole mortality. If we exclude the still-born, which ought to be done in all such comparisons, the proportion is 1 in 5.7. It might even be maintained that we ought to compare the deaths from consumption with the total number of deaths from *known causes* alone, in order to arrive at the true proportion. But this would give an exaggerated result, because the deaths from unknown causes are chiefly infantile, and the deaths from consumption affect principally the adult population. It is enough that *more than one-sixth* of the whole mortality of the live-born is caused by consumption, and that the deaths from this cause in the last fourteen years amount to one-twentieth of the present number of inhabitants!

In order to determine the proportional mortality from this disease in more northern cities, I have examined the tables of mortality of Boston for 21 years, given by Dr. Curtis, in his report to the American Medical Association on the public hygiene of Massachusetts; Dr. Griscom's report of the mortality of New York for 1842; and Dr. Emerson's tables for Philadelphia already referred to. Setting aside the still-born, the proportion which the deaths from consumption bear to the general mortality in these three cities is as follows:—

Boston	1 in 6.51
New York	1 in 6.33
Philadelphia	1 in 7.03

It is proper, however, to add, that Dr. Hayward, from an examination of the statistics of New York for 30 years, gives 1 in 5.547 as the proportion for that city. Supposing this to be the more correct ratio, the Baltimore proportion of 1 in 5.7 is still, as I have said, decidedly higher than the average.

A large number of deaths (1328) is set down to "catarrhal fever." A portion of these cases probably belong to acute bronchitis, but the majority are undoubtedly due to the lobular pneumonia of infants.

A comparison of the numbers assigned to pleurisy and pneumonia shows plainly that popular parlance, rather than scientific accuracy, has controlled the registration of the deaths by these two diseases; for, even were the numbers reversed, the deaths from pleurisy would be too numerous, and those from pneumonia too few. (I should add, that among the 285 deaths by pneumonia are included 16 registered in the reports as "inflammation of the breast.") Of the 10 deaths classed under the general head of "diseases of the organs of respiration," 9 are due to "congestion of the lungs," and 1 to "phthisis laryngea."

In the sixth class, it will be seen that but a single death by peritonitis is recorded. Doubtless the numerous deaths in "childbirth," contained in the eighth class, include the majority of the fatal cases of that disease. A similar remark may be made in reference to the single death attributed to puerperal fever in the latter class. Of the "diseases of the stomach and bowels" not specified in the table, 1 case is set down to piles, 1 to constipation, 1 to an undefined disease of the stomach, and the remaining 6 to congestion of the bowels.

The fatal case of cutaneous disease mentioned in the tenth class is urticaria.

The deaths by "old age," 1640 in number, are much too numerous, amounting to 1 in 24 of the whole. This is one of those terms too often resorted to in bills of mortality to conceal ignorance as to the actual cause of death.

The deaths from external causes amount to 1725. If we exclude from this number the deaths by intemperance, and consider only those due to the strictly accidental and violent causes, we find that they constitute about 1 in 28 of the general mortality. The deaths assigned to intemperance, added to

the 22 from delirium tremens, yield a total of 399 deaths caused directly by drunkenness; and these are few in comparison with the fatal cases of dropsy, of diseases of the nervous system, of the digestive organs, &c., caused indirectly by the abuse of intoxicating drinks.

The suicides amount to 67 for the fourteen years; an average of about 5 per annum, in a population which, for the greater part of the period, has been considerably over 100,000. These facts lend no support to the assertion of some European writers on medical statistics (Balby, Casper, Guerry, and Quetelet), that "suicide is much more frequent in the United States than elsewhere. Next comes England, then France," &c. In Baltimore, the average annual number of suicides is less than 1 in 20,000 of the population; in Philadelphia it is about 1 in 17,300; whereas, in Paris, it is no less than 1 in 3600; and, taking the whole of France, town and country together, it is 1 in 19,000.

The still-births amount to 3366, or about 8.03 per cent. of the aggregate mortality.

In conclusion, I would express the hope that the medical profession of Baltimore will interest themselves in securing the adoption, by the city authorities, of a system of registration more free from objection, and more fruitful of useful results, than that which has hitherto prevailed. In a State possessing but one large city, and in which the country districts are, in general, far from being densely populated, many years will probably elapse before the State Legislature shall be ready to organize a general and complete system of registration for the entire commonwealth. But nothing is wanting to secure the immediate adoption of such a system for the city of Baltimore, but a conviction on the part of the proper authorities that the present plan is defective, and that a better and more useful one might be carried into effect with but little or no increase of expense and trouble. Their common sense would teach them that, if it is worth while to have a registry at all, it is worth while to have a good one; and the Board of Health would doubtless cheerfully bear testimony with the rest of the profession that the present *is not a good one.*

ART. II.—*Extracts from the Records of the Boston Society for Medical Improvement.* By WM. W. MORLAND, Secretary.

April 8.—*Hydrometra.* Case reported by Dr. D. H. STORER.—The patient was a large and very fleshy woman, thirty-five years of age, and weighed about 230 pounds. In June, 1849, I saw her for the first time, and received the following history: that she had been married three times, and had borne five

children by her first husband, but none since. Previously to the last two years, she had suffered but little at her menstrual periods; but since then the pain at such times had been intense, and, not unfrequently, shreds of membrane had been expelled. The second night after her third marriage, about three months before the above date, she was attacked immediately after sexual intercourse with a profuse hæmoptysis; and this had repeatedly occurred upon any great effort, and generally during or immediately after connection. Had never raised blood before, never had suffered from pulmonary disease, and did not belong to a phthisical family.

For a few weeks past she had perceived a sensible swelling in the abdomen; thought herself to be pregnant, and insisted that she could distinguish the motions of the child, and that her sensations were precisely such as she had always experienced when in this situation. The catamenia, though diminished, occurred at each regular period. An examination of the abdomen was made through the dress, which, however unsatisfactory, determined me that she was not pregnant; and so I endeavoured to persuade her, but could not.

In January, more than six months after I first saw her, I was sent for, and found her in bed; complaining, as she expressed it, of all the symptoms which she formerly experienced, when pregnant, and anxiously expecting to be confined. Her abdomen was much distended; there was slight tenderness on deep pressure, and she still insisted that she felt the motions of the child. Upon examination of the abdomen, which was loaded with fat, I could detect no defined firm tumour; and I could hear no placental murmur, nor the sound of the fœtal heart. The areolæ were darker, she said, than they ever had been in her former pregnancies; and milk was secreted by the breasts. The catamenia had continued to occur regularly since June, though scanty, and with great distress. Upon examination per vaginam, I found the neck of the uterus not obliterated; the body was enlarged, and yielded upon pressure, as if no solid substance was contained within it. I again told her that she was not pregnant; gave her a drastic purgative, which operated freely, and visited her for a day or two, during which she became more comfortable.

On the 12th of March, supposing herself to be pregnant, I was again sent for. I found it was a menstrual period, and that while she was suffering severe pain, about a quart of orange-coloured fluid suddenly flowed from the uterus, and she supposed the membranes had broken. About two gallons of this fluid escaped during the following week; after which it ceased for a week; and then, during a day and night, a quantity passed, which it was supposed would fill an ordinary water-pail. For the last week (April 8th) there has been no flowing. A catamenial period is now present, and the pain she has suffered for two years is absent; she experiences no inconvenience, has diminished much in size, and weighs about thirty pounds less than she did a week ago.

April 22.—*Asphyxia from Carbonic Acid Gas.*—Dr. Wm. T. Parker. Dr. P. was called at 6 A. M. to two female servants, found asphyxiated in their

sleeping room; mother and daughter. The daughter was in bed; and quite dead, though her body was still warm and flexible. The mother was found crouched down in the corner of the room, most remote from the bed, and under a window; entirely unconscious, and pulseless; extremities cold, pupils dilated and sensible, jaws firmly locked, countenance livid, lips pale; the only sign of life being a slight impulse of the heart felt by the hand. Cold water was dashed on her face and breast immediately, and caused slight respiration. The jaws were forced open, and some rum poured into her mouth excited a cough, and power of deglutition. Large sinapisms were applied to the extremities, friction was used, and hot brandy and water with infusion of capsicum was administered. This treatment was continued with a prospect of success till 7 A. M., when the coldness seemed to increase, the respiration was less distinct, the trifling pulse which had begun to be felt was marked by subsultus, general spasms seemed to be commencing, and the abdomen, which was at first of natural size, became greatly swollen; not the least indication of consciousness had then appeared. Venesection ℥vj. The blood seemed very fluid, and respiration became more free, but symptoms of sinking made it necessary to tie up the arm. A stimulating enema was now given, causing free vomiting with easier respiration, and a thorough alvine evacuation. The sinapisms were renewed, and cold water freely poured on the head. This treatment was continued perseveringly for three hours, the least relaxation of effort causing a return of bad symptoms. At 9½ A. M. the pupils gave indications of sensibility, and the pulse could be felt. At 10 o'clock, she could hear, the swelling of the abdomen was gone, and respiration was regular. At 12 o'clock, she recognized persons, and during the day she gradually recovered.

The cause of this accident was carbonic acid gas, which escaped from a joint in a furnace flue, which passed through their room (a basement) to the chimney; their bed being directly under the leak, so that the gas was poured directly upon the two women, as water would have been from a spout. The daughter was found turned upon her face, which was very dark from the settling of the blood. Copious epistaxis had occurred, and the bladder had been evacuated; there was no protrusion of the tongue, but a slight contraction of the brow, and post-mortem rigidity soon became strongly marked.

They went to bed at 9 P. M., and the mother remembers that, soon afterwards, her daughter complained of headache, and "a smell of gas," and that she rose and closed the door.

May 13.—*Excision of the Horizontal part of the Lower Jaw for Malignant Disease.* Reported by Dr. J. Mason Warren.—The patient was a healthy boy, fifteen years old, with no hereditary tendency to malignant disease, so far as could be ascertained. Two years and a half since, a small red fungous

tumour made its appearance between the middle incisor teeth of lower jaw. This tumour gradually increased, separating the teeth, and finally involved the whole depth of the bone. At the time of the operation the lip was much pressed outwards, and the cavity of the mouth so encroached upon as materially to embarrass the speech and prevent mastication.

The disease was removed by making an incision through the lip in the median line, and extending it as far as the os hyoides. The soft parts being dissected from the bone, this was partly sawed through by means of a metacarpal saw, the second bicuspid tooth on either side being removed. The incision through the bone was completed with cutting forceps.

Before separating the attachments between the jaw and the tongue, a ligature was passed through the mucous membrane at the base of that organ, in order to prevent retraction, an accident that Dr. W. had seen happen in an operation similar to the present, the patient being saved from suffocation by the surgeon thrusting his finger down the throat, hooking up the tongue, and securing it by a ligature.

In the present instance, there was no disposition in the tongue to retract, but, for the sake of precaution, the ligature was passed through the wound, and formed one of the sutures which confined the edges of the lip when they were approximated.

The portions of jaw removed show the whole bony structure much expanded and enlarged. On the alveolar edge one bicuspid tooth remained on each side. On the left side two incisors. The right incisor teeth had disappeared. The right cuspidatus was found deeply buried in the jaw, lying diagonally across the root of the bicuspid nerve, having come to the surface. From the expansion of the jaw by the disease, nearly two inches existed between the bicuspid tooth of the right side and the incisor of the left.

A small portion of the expanded shell of the bone being cut away from the internal face of the jaw, exposed a fungoid mass filling the interior. This, on being submitted to microscopic examination, presented well-marked cancer-cells.

The disease was limited by the bone, the soft parts in the vicinity exhibiting no marks of disease.*

May 27.—*Imperforate Anus in a Pig. Opening from the Rectum into the Urethra.*—Dr. JACKSON exhibited the specimen sent to the Society by Dr. Wm. J. Burnett, with the following history. The subject was a male, one of a litter of eight or ten, and was killed when twenty-six days old, having suffered no inconvenience from the malformation, so far as was known. The

* This patient left the hospital two weeks after the operation, quite well. The lateral portions of jaw had been but little drawn together, and could be approximated with the upper jaw so as to allow of the mastication of moderately hard substances.

parts having been removed by Dr. B., there is seen to be no appearance of anus, and the rectum, moderately enlarged, terminates near the surface in a cul-de-sac. The intestine having been inflated and tied, the urethra was cut open; and between one and two inches from the bladder the opening from the rectum is seen, perfectly well marked upon the urethral surface, and yet so small beneath it that the air could not readily be forced through. Externally, the communication appeared as a short, dense, rounded cord, half an inch or more from the extremity of the intestine.

One of the other pigs in the same litter had been killed four days before, having the anus imperforate, and the abdomen somewhat distended, though otherwise it appeared well; no examination was made of the urethra. The rest were well-formed. In a former litter, however, one of the number was reported to have had a common outlet for the rectum and vagina; showing the same tendency to the reproduction of monstrosities at different births that is often seen in the human subject.

Dr. J. alluded to an observation that he had made in the printed catalogue of the Society's Cabinet, that in every one of six cases of imperforate anus in the male (human) subject that he had examined, an opening had been found from the rectum into the urethra; also to a case of Dr. York's, of which he published an account last April in the *Boston Med. and Surg. Journal*, and in which, after an operation by Dr. Y., the child lived eighteen months, the feces passing altogether through the opening into the urethra for the last two months.

May 27.—*Enchondroma of first phalanx of Middle Finger.*—Dr. J. Mason Warren exhibited a cast of the hand, and showed the tumour. The subject of the disease was a little girl thirteen years old. When two years of age, a small hard swelling appeared on the inner side of the first phalanx of middle finger. This slowly increased, producing no inconvenience except from its size, which more or less interfered with the motion of the hand.

At the time of the operation the tumour was the size of a small apple, involving the whole bone of the first phalanx and part of the second. The finger was forced out of its place and lay diagonally across the little or ring finger. A small tumour of similar description occupied the lower phalanx of the forefinger, and one also, a still smaller one, on the ring finger, lying under and concealed by the larger tumour.

The finger was easily removed. The head of the metacarpal bone sawed off to allow of the necessary approximation of the edges of the wound. A section of the excised part shows a uniform appearance like the interior of a ripe apple. The periphery was somewhat elastic, like the more delicate layer of bone or cartilage. A few spiculæ of bone were interspersed through the interior. The shaft of the bone had disappeared. The metacarpal extremity remained.

May 27.—*Erysipelas following Vaccination.*—This complication does not seem to have been observed here before the present season as a grave form of disease. Of late, however, cases have multiplied to such an extent, and the result has been so often fatal, that many members of the society have refused to vaccinate except when it has been absolutely necessary, and have almost wholly given up re-vaccination. Erysipelas, as appears by our records, has been quite prevalent during the past winter and spring; and small-pox was probably never known to exist here as it has during this same period. The following cases were reported :—

I. Case reported by Dr. J. B. S. Jackson.—An infant six months old was subject to intertrigo. The vaccine vesicle was rather imperfect; and on the seventh day erysipelas appeared in its neighbourhood, gradually extending over the whole extremity, and somewhat to the trunk, but not to the head. Slight vesication followed, and an abscess threatened in the hand; one actually forming in the axilla. The constitutional symptoms were, for a time, quite severe, but the child recovered in about a month.

In common erysipelas, the same part is not often affected a second time, but here there was a recurrence of the inflammation not only once but twice after it had fairly subsided.

II. Case also reported by Dr. Jackson.—An old man of rather bad habits having been revaccinnated, the whole forearm became erysipelatous with some vesication, but in a few days was quite well.

III. Case reported by Dr. Cabot.—This being a case rather of diffuse cellular inflammation than common erysipelas. The patient was a gentleman, sixty-nine years of age, who, having been exposed to varioloid, was revaccinated in two places on the 3d of April. On the second day, two vesicles had formed about the size of a small pin's head, and there was pain in the axilla, with pain and soreness under the pectoral muscle. On the third day, the vesicles had become larger and pustular, and an areola had formed. This last extended up and down the arm, and when it got to some distance from the points of vaccination, assumed the character of a deep erysipelas; the pain during this time being chiefly under the pectoral muscles. In about two weeks the inflammation had extended to the hand, and in the course of the third week an opening was made about the elbow, from which a considerable quantity of sero-purulent fluid was discharged; the back of the hand being opened down to the fascia a few days afterwards. From the shoulder the erysipelas extended over the whole back, down the right arm to the elbow, and somewhat over the abdomen from each side; also across the front of the chest, nearly to the right shoulder. The whole duration of the erysipelas in an active form was about seven or eight weeks; neither the head nor lower extremities were affected; the areola about the vaccine points subsided, but subsequently this surface was attacked with the disease. The suppuration about the left shoulder and down the upper extremity has been very exten-

sive; the pectoral muscle was separated from the parietes of the chest, and the skin of the forearm was so detracted from the subjacent parts that fluids thrown in at the elbow would pass out at the back of the hand; very numerous openings have been made about the elbow and shoulder for the discharge of pus. For about two months the patient was confined to his bed, but for the last six or eight weeks he has been fairly convalescent, so that for some time past he has been able to ride out daily. The prostration was not so great as would having been expected in such a case; the pulse not rising above ninety during the active stage of the inflammation; there was, however, some delirium, with chills, headache and pain in the back. No suppuration occurred, except in the parts above alluded to. Amongst the remedies used in this case, the application to the surface of the tincture of iodine seemed to be beneficial, and, still more, the injection into the cavities of this same substance; at first largely diluted with water, but afterwards increased in strength to the proportion of equal parts; the filling up of the cavity in the forearm and the restorative process altogether being much accelerated under this treatment, and without any unpleasant consequences. This treatment was adopted at the suggestion of Dr. S. Parkman.

IV. Case reported by Dr. J. Bigelow.—The patient was a gentleman, about thirty years of age, and having been exposed to the small-pox, was revaccinated with several others, from the same virus. Two days afterwards, an erysipelatous spot, of the size of a dollar, was discovered around the point of vaccination. This spread rapidly in every direction, and at the end of five days, had occupied the whole arm from the shoulder to the elbow. At this time, several dark spots appeared upon the inside of the arm, which in two days were perfectly gangrenous, so that an incision was made five inches in length, without pain. The slough was apparently confined to the skin and cellular substance, inasmuch as the muscular power was at no time lost. Meanwhile the pulse was quick, and the skin hot, with prostration, headache and delirium. In another week, the erysipelas had extended to the whole trunk, half way down the thighs, and to the wrist of the affected arm; the patient being much of the time delirious, or somnolent, and with a pulse of 120. During the third week, the symptoms were generally aggravated, and the cerebral affection increased; there was also a retention of urine, and the catheter was required for a fortnight. During this time, however, the slough gradually separated, leaving a large, deep ulcer. The patient became convalescent at the end of a month, and slowly recovered; the ulcer requiring another month or more to cicatrize. No other slough formed, excepting two small ones upon the lower part of the back. No other person, who was vaccinated with the same virus, had any unusual symptoms; but a lady of the family, about seven weeks after the vaccination, was attacked with inflamation of the fauces, and tonsils, followed by prostration and delirium, and died in a week; during her sickness, a livid spot, about two inches in

diameter, appeared over the upper part of the sternum, but this disappeared before death.

V. This was a case, also reported by Dr. BIGELOW, that occurred soon afterwards. A healthy child, about five months old was vaccinated, and the vesicle went on well till the eighth day, when matter was taken with which three others were vaccinated. On the ninth day, the arm became erysipelatous, the inflammation rapidly spreading over the whole trunk; and the child died in a few days. All of the patients inoculated from this arm had a perfect vesicle, and without any anomalous symptom.

These two cases were considered by Dr. Bigelow, as conclusive against the transmission of erysipelas by vaccination.

VI. Case reported by Dr. HOMANS.—The patient was a healthy infant, about three weeks old. On the eighth day, the vesicle appeared well, and matter was taken with which other children were vaccinated, the result being in every case successful. On the tenth day, erysipelas appeared below the elbow, and extended into the axilla; the swelling and redness were very defined, and the inflammation spread rather more rapidly than is usual in the adult. Vomiting and diarrhœa came on, and lasted for some days; and the pulse was too quick to be counted. The head and abdomen then became affected, and on the ninth day from the invasion of the disease, the scrotum and penis were greatly swollen; these last were punctured with much relief, but a deep sloughing of the scrotum took place, one and a half inches in diameter, and nearly exposing the testicles. The extremities were next affected, but in the meantime the child began to improve, and the pulse had fallen to 120. On the subsidence of the disease, abscesses formed upon the body and limbs beneath the surface, and about the left hip, one that was quite large and deep. This last, is the only one that now remains open, and the child is fairly convalescent, after a sickness of about three months.

Dr. Homans also alluded to the case of two lads, in whom the erysipelas was followed by extensive suppuration in the axilla; one of them having been vaccinated, and the other re-vaccinated.

VII. Dr. PUTNAM reported a case, in which erysipelas attacked the scalp on the fourth day after vaccination; the patient was a healthy infant, and the inflammation never extended beyond the part first affected; there was little constitutional affection, and the duration of the disease was about a week.

VIII. Dr. CHANNING mentioned a case of erysipelas, after vaccination, in which the shoulder, axilla and pectoral muscle were involved. Obscure disease within the chest, carried off the child. There was no vesication from the erysipelas. The scar of vaccination was morbid. Dr. C. had noticed several such cases, in which the vaccine disease was irregular and unnatural in its course and appearances. He declines vaccinating, and especially re-vaccinating.

It appears from the records of the Society that a fatal case of erysipelas,

following re-vaccination, was reported by the late Dr. Greene, as having occurred in January, 1846. The patient, a gentleman sixty-six years of age, had been vaccinated twenty years before, and re-vaccinated, though without success, two or three times since. On Friday, the day after the re-vaccination by Dr. G., he was seized with chills, nausea and a sense of general uneasiness; and, at the same time, inflammation commenced in the arm, attended with heat, redness, and pain. He slept none on the following night, and on the next night was attacked with vomiting and purging. The symptoms from this time did not become materially worse, however, till the following Wednesday, when he complained of pain just below the elbow; and on Thursday, a small patch of erysipelas was discovered at this point, which gradually extended over the arm and chest of the affected side, the infiltration of the cellular tissue, keeping about two inches ahead of the redness. He died at ten on Friday evening, a little more than eight days from the time of re-vaccination, the erysipelas having extended to within two inches of the sternum.

In regard to the quality of the matter introduced, Dr. G. remarked that it was taken on the eighth day from a perfectly formed vesicle on the arm of a perfectly healthy infant, born of healthy parents; that one of his own children had been re-vaccinated with the same matter, and also another person, in both of which cases, the symptoms and appearances were slight. Dr. Greene alluded to several other cases, in which unusual redness and pain had followed re-vaccination, but which differed in appearance from erysipelas. Dr. Warren stated at that time that he had seen one case of erysipelas following chicken-pox.

May 27.—*Labour, with almost complete closure of the Vagina.* Case reported by Dr. PUTNAM.—A healthy woman, aged thirty, was married at seventeen, never having menstruated. Two years after marriage had a swelling in the vagina, which was punctured by a surgeon, and a quantity of tarry-looking fluid discharged.

About two years ago, a large "lump" formed in the abdomen, causing an enlargement as at the sixth month of pregnancy. There were also headache, constant flush of the face, and dysuria. This enlargement had lasted six months, when she began to discharge from the vagina a thick, dark-coloured fluid resembling that evacuated ten years before. Within a week, the abdomen was reduced to the natural size, the discharge continued for three weeks, and afterward she menstruated regularly until she became pregnant.

On the access of labour there was found an obstruction in the vagina, and on the 10th I was asked to see her. She had been for some hours in active labour. On examination, the vagina, within an inch of the external organs, was closed by a strong, somewhat yielding membrane. No perforation could be detected, though sought for. We decided to do nothing, but await the progress of the labour.

In four hours violent pain came on—the septum was distended, and protruded beyond the external organs. Under this tension three small holes were visible, just sufficient to admit the head of a probe, and about one-fourth of an inch apart. A bistoury was then introduced, and the three holes laid into one. The thickness of the septum was found to be about two lines. A gush of liquor amnii succeeded, and in half an hour the head came down, and the child was born living.

Coition had from the first been painful, and for the last two years excessively so. The husband had not been aware of any impediment until within the last two years. I presume, however, that the malformation was congenital.

May 27.—*Granulated Liver, Jaundice, and Hemorrhage.* Case reported by Dr. JACKSON.—The patient, a labouring Irishman, twenty-five years of age, entered the hospital on the 21st of May, and died in the course of the following night. For about a year his skin had been deeply yellow, and the urine, he said, looked like blood, his previous health having been good; dejections variable, but sometimes yellow. For about nine months he had frequently bled from the nose and gums, and often to the amount of a pint. Continued to work till seven weeks before admission; and had kept his bed for the last ten days, having had some cough, and pain in chest. When seen, his pulse was 84, quite irregular, and almost imperceptibly small; skin cool; general appearance of prostration, but much less than the pulse would indicate; some diarrhœa, but no other marked local symptom; no mention, no appearance, of dyspnœa.

On dissection, the tissues were found deeply coloured by bile; some serous effusion in the peritoneal and two pleural cavities, with œdema of surface; some effusion of blood in lower extremities, and beneath the peritoneum. The blood was so thin as to run like water from the veins when they were divided; but it was not very pale, though more so than usual; careful search was made for coagula in the cavities of the heart and large vessels, but scarcely a trace could be found. The cavity of the pericardium contained three pints of blood similar to that just described; and upon the surface of the heart was a deposit of fibrin, which was evidently the result of inflammation. The granulated structure of the liver was very strongly marked, and this organ, which was shown, was of a deep grass-green colour throughout—showing the inapplicability of the term cirrhosis. Spleen enlarged as it often is with this disease of the liver; weight fourteen ounces.

Dr. Jackson remarked upon the fluid state of the blood, and as a consequence, the frequent occurrence of hemorrhage, in cases of jaundice, whether disease of the liver existed or not; this change in the quality of the blood being probably due to the alkaline property of the bile. He also alluded to a case that he saw with Dr. Gordon a few months ago; the patient died from

hæmatemesis, having had jaundice for some weeks, with hemorrhage into the integuments, and from some of the internal organs.

June 10.—*Hemorrhage from the Urethra.* Case reported by Dr. RUSSELL. —The patient was a gentleman about the middle period of life, and the father of several children. Having been absent upon a journey for two or three days, he returned home late in the evening, and immediately after sexual intercourse the hemorrhage occurred, amounting to a pint, so far as could be estimated. The excitement was no more than usual, and he had never before experienced such an effect. For two or three days he was left quite feeble, but with no signs of local irritation.

June 24.—*Tumour within the Orbit.* Case reported by Dr. HOOPER.—A young man, twenty years of age, was first seen by Dr. H. last October. The left eye was then protruded apparently by a tumour behind it; the vision was scarcely impaired, and there was no pain except on taking cold. The protrusion began three years before after a severe cold, and increased gradually for eighteen months, but had been about stationary for the last six. In November, he left the Infirmary, not relieved; and on the 7th of last June was re-admitted. The eye was then enormously protruded, and there was added to this a mass of chemosis, which gave the patient a frightful appearance. There was also pain, with entire loss of vision. The organ having been removed, he was discharged on the 25th of June, doing well.

On examination, the eye itself appears sufficiently healthy. The tumour, which was situated deep in the orbit, and was divided by Dr. H. in removing the mass, is loosely connected with the globe of the eye, about equal in size to the globe itself, well defined, of rather a soft fleshy consistence, and presenting a uniform partially organized appearance; and on microscopical examination, proved to be malignant.

June 24.—*Malignant Growth within the Globe of the Eye.* Case reported by Dr. HOOPER.—Mrs. ——— æt. about thirty-five; woman of feeble health; married several years; has had no children; has suffered during the last two years from constant uneasiness and occasional severe pain in right eye. When first seen two years ago there was complete loss of vision, the sclerotica bulging out at the upper and inner part; injection of conjunctiva; cornea transparent. During the two years, pain has been severe at times, but relieved by leeches to temple, and by puncturing the globe at the place of protrusion; a straw-coloured fluid followed the puncture until within the last few weeks, when no fluid has escaped, and there has been no relief from the patient's suffering, which is excessive.

To-day, the patient being under the influence of sulphuric ether, I removed the eye. Very little hemorrhage occurred. No dressing but a compress wet in cold water laid on the eyelids *July* 1. The patient has been comfortable

ever since the operation; is now down stairs. *July* 31. Patient still doing well as far as the seat of disease in orbit is concerned, but has had some disease in the abdominal region.

On examination, the eye is moderately enlarged; the bulging above noticed being quite marked. Cavity of the sclerotic about two-thirds filled by a nearly uniform, whitish, soft solid, well-defined substance, which the microscope shows unequivocally to be carcinomatous. The remainder of the cavity is free; and the different tissues, where not involved in the disease, appear to be healthy. The sclerotic, also, so far as seen in a single incision appears healthy; and to some extent the choroid coat can be traced between it and the diseased mass.

June 24.—*Dislocation of Femur reduced on Sixty-eighth day, by Jarvis' Surgical Adjuster.* Case reported by Dr. JOSIAH CROSBY, of Manchester, N. H.—On the 16th of January, 1849, Mr. P. of W., N. H., aged fifty-six, muscular, weighing about 180 pounds, of intemperate habits, was thrown from a sleigh and dislocated the left hip. Six weeks passed before the nature of the injury was understood, and more than three weeks afterwards before any attempt was made to reduce it.

On the sixty-eighth day of the dislocation, I saw the patient for the first time—found him lying in bed with all the diagnostic signs of dislocation of the head of the femur upwards and backwards; limbs, below the natural temperature, purple, œdematous, and shortened from three to four inches. Although the case seemed almost hopeless, it was agreed that an effort at reduction should be made, and *Jarvis' Adjuster* was accordingly applied. Before extension was commenced, an attempt was made to bring the patient under the influence of chloroform, but it was soon abandoned on account of violent spasms which were produced by it, and the operation was done without the aid of this powerful agent. The extension was continued, gradually increasing the power, for nearly twenty-four hours, when by a little rotation of the limb, the head of the bone was brought into the socket with a snap audible to the bystanders.

The hand of an assistant was placed on the trochanter while flexion and slight rotation were given to the limb, to see if the leg would remain at full length and in the right position. Everything proving satisfactory, the patient was laid in bed, and a bandage applied about the hips to guard against accidents from motion.

Dr. C. remarked that in the report on Surgery to the National Medical Association for 1849, the chairman of that committee gives an unfavourable opinion for himself and Prof. Pope of the St. Louis University, in regard to the "Adjuster," but that no statistics were given on which this opinion is founded. He was of opinion that an instrument of so much power and of so varied application deserves a fair trial, and that by this test its character should be fixed.

July 8.—*New Operation in cases of Effusion into the Cavity of the Chest.*—Dr. Bowditch regretted that the lateness of the hour would prevent him from giving a detailed account of some cases that he had seen, where very excellent results had followed upon the puncture of the chest in which large effusions existed. He would, however, show an instrument which he had had made after the model of one used by Dr. Morrill Wyman, of Cambridge. It consisted simply of a brass suction-pump, arranged without valves after the stop-cock fashion. There were two apertures, one for suction and the other for a discharge pipe, and by turning the piston pipe ninety degrees, one or the other of these apertures was opened. An exploring canula was arranged so as to fit tightly into the suction aperture; and having been introduced into the chest, the suction could be applied immediately, and all the fluid usually discharged, without any change of the apparatus, save the turning of the piston-pipe, above described, in order to discharge the fluid when the barrel was full.

Dr. B. had seen the operation performed five times during the last three months. All the patients were immediately more or less relieved, two had tubercles at the time, one of whom has since died. Two cases were perfectly successful, the patients being, at the time of the operation, very ill, with pulse over 120, night sweats, &c. One recently operated on with the greatest relief was still under treatment. Finally, he knew of one case treated by Dr. Wyman, who is now well, and who undoubtedly would have died had the operation not been performed.

The pain of this operation is, comparatively speaking, nothing, and the patients are generally not at all troubled by it. The wound, of course, closes instantly on the removal of the canula, and no air can enter the chest while the apparatus is in operation.

Dr. Bowditch concluded by remarking that operations had been done from time immemorial, upon the chest in cases of effusion, but he believed that they were generally considered as a last resort. In Guy's Hospital Reports, cases are given of the use of the trocar, but Dr. B. believed that to Dr. Wyman was due the credit of having first proposed the use of the *exploring canula with suction applied thereto.*

Dr. Bowditch has arrived at the following conclusions:—

1st. The operation is perfectly simple, but slightly painful, and can be done with ease upon any patient in however advanced a stage of disease.

2dly. It should be performed forthwith in *all* cases in which there is a complete filling up of one side of the chest.

3dly. Dr. B. had determined to use it in *any* case of even *moderate* effusion lasting more than a few weeks, and in which there should seem to be an indisposition to yield to the ordinary modes of treatment.

4thly. Dr. B. would urge the practice of puncturing in this way upon the medical profession *as a very important measure in practical medicine;* for he believed that, by this method, death may be frequently prevented from ensu-

ing either from sudden attacks of dyspnœa or subsequent phthisis, or, finally, as in two cases he had seen, from the gradual wearing out of the powers of life from inability to absorb the fluid, even when all the organs, save the pleura of the affected side, were healthy.

5thly. Dr. B. was likewise inclined to the belief that this operation if generally adopted would sometimes prevent the occurrence of those very tedious cases of spontaneous evacuation of purulent fluid, and those great contractions of the chest that occur after long-continued effusion and the subsequent discharge or absorption of a fluid.

July 22.—*Contraction of the Fauces, the result of Old Ulceration.*—Specimen sent to the Society by Dr. J. S. JONES, and exhibited by Dr. JACKSON, who gave the following history of the case.

The patient, an Irishwoman, aged 37 years, entered the Massachusetts General Hospital, on the seventh of June, with what appeared to be a syphilitic ulceration upon the leg; which having cicatrized, she was discharged on the 12th of July.

Five years ago, she was attacked with ulceration, which destroyed the greater part of the soft palate and tonsils; this having only recently cicatrized, and being still liable to break out. Denied any syphilitic taint, and could assign no cause for the disease; her health having previously been good. Appetite good, and she was well nourished; took solid food as well as liquid, and was no longer at the table than the other patients. Had no difficulty of deglutition, though she would sometimes choke when asleep. Breathing at all times somewhat laboured, and more or less stertorous; particularly on exertion. Voice sufficiently loud, and not hoarse, though hollow and peculiar; when about to speak, she would take in a full inspiration, and speak as long as she expired.

Patient died five or six days after leaving the hospital, in consequence of brutal treatment, which she had received from her husband; and, on dissection, there was found acute pneumonia, but no other disease except about the throat.

The contraction is such, that a large catheter would hardly pass from the mouth into the pharynx; the parts being thickened and condensed, but perfectly cicatrized. The remains of the soft palate on each side, and the whole of the epiglottis, so far as can be seen without cutting the stricture entirely through, are closely and strongly adherent to the base of the tongue. The rima glottidis also adheres extensively to the pharynx; and what should be a mere indentation between the two lips of the glottis, has come, by the traction that has been exercised upon the parts, to be a long and deep fissure.

One other case of similar contraction of the fauces may be seen in the Cabinet of the Society.

July 22.—*Neuralgia of* 18 *years' standing cured by an operation.* Case reported by Dr. BUCKMINSTER BROWN.—Mrs. R. had suffered for eighteen years from pain and tenderness of the thumb of the left hand. She could not trace it to any injury. About a year previous to my seeing her, she had had a severe labour, and had miscarried at the eighth month. From that time, the pain and tenderness had increased to an alarming degree.

The tenderness of the part above the second joint was at this time exquisite, and the pain was extreme both night and day, with but rare and irregular intermissions. It commenced in the neighbourhood of the internal corner of the root of the nail, and extended up the side of the thumb, through the hand up the arm to the shoulder, and terminated in the back of the neck, and was reflected on to the breast. If the thumb received an accidental knock, the whole arm would be convulsed, and the pain become so intense as to produce faintness. During these paroxysms, she described the arm as assuming a blue appearance.

On examining the thumb, I found it somewhat swollen, and a slight degree of blueness around and beneath the nail, and that in addition to the excessive tenderness of the thumb, there was a considerable degree of soreness along the course of the median nerve. There was no marked tenderness of any of the dorsal or cervical vertebræ. Thinking, however, that it was possible the difficulty arose from some irritation or inflammation about the roots of the nerves, the treatment was commenced by applying a blister to the spine, at the point indicated. This was kept open with an irritating ointment, and sprinkled every second night with sulph. morph., and a cathartic was given every second day. About the same time, she took carb. ferri two or three times a-day.

For two or three days after commencing this treatment, the pain in the arm was increased. Antimonial ointment was rubbed along the course of the nerve. The tenderness in the arm gradually decreased, but continued about the same in the thumb. Leeches were now applied to the dorsal region which afforded very considerable temporary relief.

The pain and tenderness, however, returning to its fullest extent, a blister was applied to the thumb itself, entirely enveloping it, and this when dressed, was sprinkled with morphia. A small abscess formed on one side of the thumb; this was opened and touched on its internal surface with lunar caustic.

The thumb was now decidedly less sensitive. During treatment, she took extract of conium, in gradually increasing doses, but without any essential improvement in the symptoms. As the dead skin peeled off, and the new formed, the sensitiveness returned, and the pain became as severe as ever.

As the list of remedies from which I thought there was any chance of deriving benefit was now about exhausted, I decided to excise a portion of the internal digital nerve of the thumb, as it was in the ramifications of this nerve around the root of the nail and side of the thumb that the disease

appeared to be seated. This was done December 18th, with the assistance of Drs. J. M. Warren and Morland.

The patient being etherized, an incision was made from the internal metatarsal head of the first phalanx of the thumb, to the internal tuberosity of the phalanx, about one inch and a third in length. A dissection was then made to the bone, and without much difficulty the nerve was seized, and a piece about one inch and one-third in length was removed. The thumb had always been so exquisitely sensitive that I had never been able to make a satisfactory examination until she was under the influence of ether. The next day, the extremity of the thumb was still very painful and sensitive; but there was no pain or tenderness below the place operated upon, or down that side of the thumb, which before had been the spot the most painful and susceptible. So far as this branch was concerned, the operation was of course successful. The relief, however, was not so complete as had been hoped, and a considerable degree of pain and susceptibility still continuing through the winter, another operation was decided upon. The patient being again etherized, a puncture was made above the most sensitive spot just clearing the joint. A long thin knife was then introduced anteriorly and posteriorly, and all the parts from the skin to the bone thoroughly divided; thus semi-girdling the thumb, another puncture was made on the other side, and the same operation repeated.

March 13*th.* The last operation has been attended with complete success. The extremity of the thumb below the incision, that is, below the second joint, is perfectly numb, and there is no pain in the thumb or hand.

April 16*th.* Mrs. R. has had no return of pain in the thumb or hand, and all that remains to remind her of eighteen years of suffering is a slight shooting pain across the chest at distant intervals, on exposure to cold, &c.

A case somewhat similar to the above is on record, in which the disease was also in the thumb, and was the consequence of a puncture from a shoemaker's awl. In this case, the diseased nerve was cut down upon, and a small tubercle (neuroma) was found and removed with the nerve, to which it was attached, and of which it formed a part. The operation was attended with success. In the case above related, no tubercle was discovered. Previous to the last-mentioned operation upon Mrs. R., I was not aware that this method of operating, by destroying all the nerves that go to a part, had ever been followed. I have since learned that Dr. J. C. Warren had many years before operated in a similar manner, and with a like successful result.

ART. III.—*Hints on the Treatment of Lacerated Perineum from Parturition.* By W. E. HORNER, M. D., Professor of Anatomy in the University of Pennsylvania; Senior Surgeon of the St. Joseph's Hospital, Philadelphia.

IN the year 1837, in a report of a tour of duty in the Philadelphia Almshouse Hospital, (see the *American Journal of Medical Sciences* for November of that year,) I offered a suggestion, founded on a case of lacerated perineum from parturition, of the propriety of dividing the sphincter ani muscle, where reunion was attempted in old cases. Owing to the intractable spirit of the patient, the experiment was defectively tried; but I remained disposed to make another trial of it upon a suitable occasion.

In October, 1848, I assumed the charge of a young married lady after her second accouchement, the accident under consideration having occurred in the first. The laceration was complete from vulva to anus; the parts were cicatrized over an inch or more deep, and but one fissure was apparent from near the os coccygis to the clitoris. The patient, of rather a full habit, and well organized in other respects, was rendered miserable and helpless by a constant tendency to diarrhœa, only to be restrained by the incessant use of opiates; and her life was unavoidably retired owing to her want of control over her natural discharges. Much of the fecal matter passed forward through the rima vulvæ, which added to the distress of her situation.

The operation was performed in the usual way, by paring off the cicatrix of each margin of the perineum, and then fastening it carefully with interrupted stitches along the rectal and along the vaginal edges of the cut; and, to secure more fully the permanency of contact, the sphincter ani muscle was divided on each side of the anus. Unfortunately, the menstrual flux came on prematurely; and it, with the natural discharges of the vagina, loosened everything like adhesion. The operation was a failure, though the bowels had been kept unopened for many days, so that no counteraction from fecal discharges had occurred.

This lady, with true feminine spirit and perseverance, not discouraged by the want of success, insisted on another trial, and, after a series of postponements for various reasons, I operated a second time, January 28, 1850, just fifteen months after the first trial. I need scarcely say that in the interval of the two operations her life had been of the same wretched kind as previously. I had now of course additional difficulties. The portion of perineum pared away in the former instance had reduced its extent; the slit from vagina into rectum had been elongated or deepened. If lateral adhesion had failed before, the failure now was still more probable. Under these considerations, I determined to modify the operation, so that if unsuccessful the patient should at least not be the worse off for my attempt. The following plan was accordingly arranged. Two flaps to be made from the perineum and adjoin-

ing part of the vulva, the one on the right of the patient and the other on the left, as follows:—

Fig. 1.

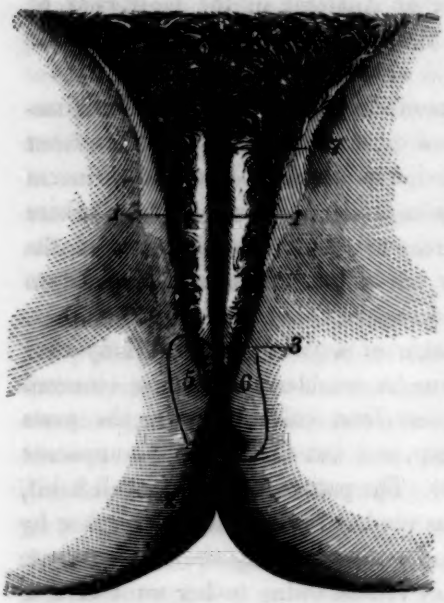


Fig. 1.

1, 1. Vulva.
2. Anus.
3, 4. Lacerated perineum.
5. Right flap.
6. Left flap.
7. Clitoris.

Fig. 2.

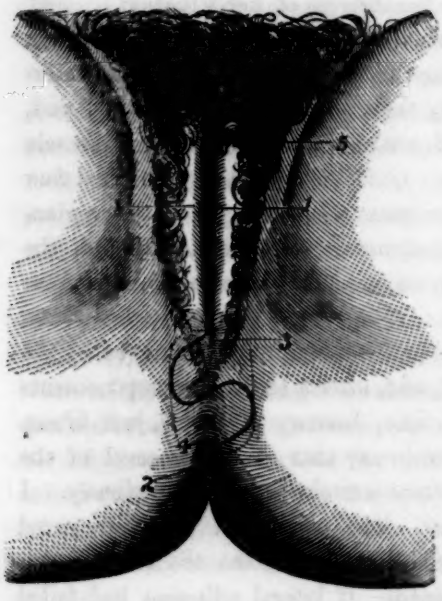


Fig. 2.

1, 1. Vulva.
2. Anus.
3. Upper or left flap.
4. Lower or right flap
5. Clitoris.

If, according to these figures, the base of the right flap be placed below, and the base of the left flap above, upon crossing the two flaps a partition will be formed between the rectum and vulva; there will be no loss of substance; the free side of the right flap will form the upper part of the rectum, and the free

side of the left the lower part of the vagina; and interrupted stitches along the rectum and along the vagina will secure the approximation of the flaps, and the contiguity of their raw surfaces.

In accordance with this plan, the operation was performed; the patient, as in the former instance, being under the influence of a mixture of chloroform and of ether. The right flap was fully and satisfactorily made. The left flap, owing to a sudden contraction, its transverse part being first made, was not as desired, but fell short of my intentions. The parts were adjusted and fixed with stitches. For the first ten days or so there was a strong indication of success. A large firm stool having then occurred, upon examining whether injury had been done, I found that either from it or from indisposition to unite the flaps had not adhered. But it pleased me much to see that they were in situ, so that the partition was kept up between the rectum and the vagina. The ligatures having all been detached, I found in a month after the operation that the left flap had shrivelled away almost to nothing; the right flap had lost one-half of its first size, but it still remained as a barrier between the two canals; and, with a linen compress introduced into the vagina and laid upon it so as to keep the flap in place, the discharge of feces was regulated, so that there was no diarrhœa, and no medicine was necessary to prevent it. The patient felt the call for defecation, could make timely provision for it, and was so much improved in her comfort that she considered herself a different being.

At this date, July 15th, 1850, on an examination of my patient, I find that things are improved very much. The appearance of an operation having been done has subsided, so that upon a superficial examination there appears to be a regular division between the anus and the vulva, a reproduction of perineum. The latter is, however, actually only the claustrum made by the operation; the edge of it is still loose, but yet it has the effect of directing the rectal discharges backwards, and the vaginal forwards. The recto-vaginal fissure has diminished much in depth, and the comfort of the patient has been vastly augmented. From having been for a long time in an absolutely helpless state, she began to participate in her house-work, and continued to do so until lately, when her diarrhœa was unfortunately reproduced by a visit to a region of limestone water. But with this disadvantage she says her feelings are more natural, and that she has a much better control of flatulent and fecal discharges than formerly, and is apprized of their approach. It yet remains to try whether, by a protracted application of the milder escharotics to the free edge of the new claustrum, a perfect adhesion of it may not be obtained. As the duration and success of this process are uncertain, the result may possibly be the subject of a future report.

It is sufficiently known that lacerations of the perineum in the female are easily treated when recent; after cicatrization, all candid writers view them as very serious and very intractable. If the preceding narrative should induce others to imitate this plan of operating, I would recommend the ver-

tical incisions of the flaps to be first made, as the relaxation of the tension of the parts affects much the state of the flap where the transverse cut is first made, and interferes with the plan of the operation. This is a matter of pure experience which had not entered into my first estimate of difficulties.

ART. IV.—*Notes of Cases treated at the Poor House of Westchester County, State of New York.* By JAMES D. TRASK, one of the Physicians to that Institution.

THOUGH the medical records of a county poor house must almost necessarily be imperfect, I find among my notes not a few cases of considerable interest. But, before submitting an account of some of these, it will be necessary to allude to certain local circumstances, having a most important influence on the results of medical treatment in the poor house of this county.

This establishment is situated in the town of Mount Pleasant, about thirty miles north from the city of New York, and about two miles east from the Hudson River. Its location is unfortunate for such an institution, as it lies in a basin formed by hills on all sides, within ten or twelve rods of a small stream, called the Sawmill River. Immediately in front of the buildings stands a small grove of trees; and in the rear, a range of barns and other out-buildings, by which the free circulation of air in and around the buildings, is seriously impeded. In fact, the spot seems to have been selected chiefly with an eye to the convenience afforded to domestic purposes, by its proximity to the river.

The number of inmates varies from one hundred and fifty in the summer, to over three hundred in the winter. Only a small proportion are Americans by birth, much the largest portion being emigrants from Ireland, constituting a transient population. The permanent inmates are the aged, decrepit poor of the county, those reduced to abject poverty by vice and misfortune, with their children, and insane paupers who are placed in an asylum erected for their accommodation in a wing of the building.

Several of the apartments occupied by the inmates are abundantly roomy, and have sufficiently high ceilings. Those in the attic are very deficient in these respects. They were all constructed without the least regard to ventilation, and consequently, since the introduction of stoves, the condition of the atmosphere within them has been just such as would be expected in rooms crowded by persons of uncleanly habits, with closed doors and windows even during the hot nights of summer.

In the winter and spring of 1849, the admissions into the hospital were

unusually numerous. This arose from the proximity of the poor house to New York city, from which emigrants not unfrequently come immediately upon landing, and are within a few days seized with ship fever. This fever also prevailed among those employed along the line of the Hudson River Railroad, to such a degree that on some sections labour was suspended for want of men.

The baneful consequences of defective ventilation, or rather of the almost entire absence of it, with neglect of cleanliness, soon became alarmingly apparent in the hospital, where, under the absence of anything like proper nursing, medical treatment was almost entirely unavailing, and the patient struggled with his disease under circumstances most adverse.

During the winter and early spring, the sickness was confined almost entirely to cases received from without the house. Later in the season, when the epidemic along the railroad had almost subsided, it broke out in the poor house and attacked many of its inmates.

In June, the cholera suddenly broke out, the establishment continuing in its previous condition, in consequence of the impossibility of procuring labourers to perform the necessary work of keeping it in proper order.

During the past winter, an attempt was made at ventilating a part of the building, which, imperfect though it be, has materially increased the success of medical treatment, and the personal comfort of all concerned.

Fibrous Tumour of the Uterus with Polypi.—Mrs. G. æt. 52, was confined seven years ago, and has since aborted once. At regular monthly intervals she has been subject to attacks of hemorrhage from the vagina. They always are preceded for a day or two by severe pain above the pubis, more especially in the situation of the left ovary, and she says "she can then feel a lump above the pubis; but the tenderness is too exquisite for her to permit of any examination. On the appearance of the discharge the pain passes off. The discharge is always profuse, and I have several times seen at the least a quart of blood which she had passed." The pulse was at such times small and weak; the hemorrhage controlled by cold lotions and acet. plumb. with opium, and rest on her back. She died of cholera in July, 1849.

Autopsy.—A sac of the size of an orange, with very thin walls was attached to the mesentery, and filled with a fluid of the colour and consistence of cream. The uterus was low in the pelvis. In its substance were several firm fibrous tumours from a half inch to two inches in diameter, some appearing on the outer surface, others protruding into the cavity of the organ. In the cervix was found a polypus not over a half inch in length and two lines in diameter. Another, a little larger, was situated about the opening of the Fallopian tube. The polypi were undoubtedly the source of the hemorrhage.

Encephaloid Tumour in the Substance of the Brain, and Malignant Disease of the Testis.—William Hutchins, æt. 27, was admitted under the care of Dr. Scribner, Sept. 26, 1848, for a disease of the left testis, which I had not the opportunity of seeing. He left on the 30th, and re-entered Nov. 22d, having in the meantime suffered the removal of the testis. The nature of its disease I had at the time no means of learning. The notes on his

admission, are as follows: "Patient is stout and muscular, of large frame, bilious temperament, and in good flesh. On approaching his bedside, the expression of his countenance is strange. He stares you in the face, winks his left eye as often as every half minute; and when asked what ails him, answers with an air of indifference, 'Nothing.' When addressed, he speaks slowly and hesitatingly. Says he was well until he was operated upon; that about a week afterwards, his lower extremities became somewhat insensible to the touch. This insensibility, he says, increases, though he is conscious when pinched. The left arm seems to be insensible to about the same degree. He gets up occasionally and staggers about the room, taking hold of the chairs, and in doing so frequently falls forward to the floor. When sitting by the bedside, he sometimes falls suddenly forward headlong. When requested to sit up in bed, he does so very deliberately. Both hands tremble when he reaches them out to take his cup. On being told to show his tongue, it is thrust out close to the right side of the mouth, and the left angle of the mouth is raised so as to show the gums. He is partially blind; able to distinguish the window, but says he cannot see one standing beside him, though he is said to walk about by the chairs; and he grasps his drinking cup when within reach. There is little, if any difference in the size of the pupils; there is no congestion of the conjunctiva. The spasmodic action of the orbicularis palpebrarum of the left eye is very strong, and independent of any movement of the right eye. His memory is defective, and he does not remember in what place he was operated upon, and the account which he gives of himself evidently cannot be relied on. He is somewhat hoarse, and spits out frequently a tough, viscid saliva. His mouth is dry, his thirst great, and he swallows large quantities of cold water. The tongue is generally covered with a thick fur, but is bare in spots. The pulse is of natural frequency, full and pretty strong. The bowels move daily, and to-day he has control of them. Two days ago he passed his urine and feces in bed. How long he has done this, he does not know. He further states that for several weeks he has had pain along the cervical and dorsal vertebræ, and also *across the chin* and over the eyes. At times he moans a good deal. Ordered a calomel cathartic."

Nov. 27*th.* General appearances the same. Pupil of the left eye is a shade smaller than the right, both contract equally when exposed to the light. The tongue is in the median line when protruded, and there is no paralysis about the mouth. The spasmodic action of the left orbicularis palpebræ continues. Since the last visit has passed urine voluntarily, and had the control of the sphincter ani. He has two or three times, on attempting to walk, suddenly fallen to the floor, presenting no spasm, frothing at the mouth or diminution of intelligence. He sometimes totters across the room after water. His appetite is good, and he eats abundantly. He drinks less than when admitted. Tongue the same as before. Repeat the calomel cathartic.

30*th.* 4 P. M. Has been purged twice. His condition has continued the same as hitherto, until this noon, at which time, soon after receiving his dinner, he was observed sitting in bed supported by a chair, with his head drooping. Since then he has lain with his eyes open, staring, and when spoken to, turns round but does not speak. He protrudes the tongue when directed. There is no heat of the head or turgescence of the vessels of the eye. The spasm of orbicularis is no longer to be observed. The feet are cold. Lies on the right side, with his feet drawn up, and so far as can be ascertained, there are but *six or seven respirations in a minute*, and nothing then but a prolonged, blowing expiration perceptible. The pulse, counted two hours ago, was but 50 in the minute; it is now 80.

The head was shaved, and the camphor moxa, as a convenient counter-irritant, applied to the occiput and the nucha. He manifested but little sensibility during the operation of this severe agent; sinapisms were applied to the extremities.

Dec. 1*st*, 10 A.M. Appearance changed; is sitting up supported in bed eating his dinner. He became sensible about 10 o'clock last evening. Talks now as well as before yesterday; protrudes his tongue in the mesial line; partial loss of sensation and of motion in the right lower extremity, and diminished sensation of the right arm. Increased heat of head; pulse 80, more full and firm, but compressible; breathing much more natural, still some blowing character to the expiration; pupil of the left eye decidedly dilated. Does not remember anything of the moxa, which has produced but little vesication or even redness; ordered a blister to the nucha and counter-irritation to the extremities.

2*d*. Found him sitting up in bed, looking cheerful, and he spoke more naturally than at any previous visit. The extremities were warm, head above natural temperature, and he complained of some pain in the forehead. There appeared to be loss of sensation in the right leg quite up to the pubis; sensation of the rest of the body apparently perfectly good. The spasmodic twitching of the orbicularis of eye not returned, but a slight degree of *ptosis* perceptible. Tongue protruded straight; more clean; none of the viscid saliva observed previously; thirst gone. Involuntary passage of urine; pupils more dilated than before and differing but little in appearance. Pulse 96 and full; on the afternoon of the 1st it was 50, respiration 20 and regular.

4*th*. Expression of countenance less bright; involuntary discharge of urine and feces. Sensation has *returned* to the right leg, and is apparently perfect over the whole body. There is some twitching of the orbicularis of the eye; pupils less dilated. Can probably see better than he pretends, and is considered by those about him as "vicious." Pulse 80; renewed secretion of viscid saliva.

7*th*. About the same; there seems to be diminished sensibility of the right leg, thigh and arm, especially below the knee. He almost altogether refuses food.

8*th*. When seen in the afternoon there was no change. Soon afterwards, he was observed to turn in bed, to draw up his right leg, which he had been observed to move but little for some days, and to moan. His breathing became laboured, and in fifteen minutes he was dead. He had all along exhibited a provoking perversity of disposition, which induced those in the room with him to suppose he was feigning sickness.

Autopsy.—Seventy hours after death, the brain having been removed by Dr. Scribner and immersed in alcohol, was examined.

Vessels of the dura mater full but not distended. Along the course of the longitudinal sinus there was opacity and thickening of the arachnoid in the interlobular spaces; over the posterior lobe of the left hemisphere, the membranes adhered, so as to be inseparable from the brain, without subjecting it to laceration. They were found adherent to the upper surface of a firm tumour which occupied nearly the whole of the posterior lobe, and a considerable portion of the middle one. It was surrounded at the sides and below by a greater or less thickness of cerebral matter, which was reduced in places to a mere film beneath the meninges; only a very thin lamina of cerebral matter separated the tumour from the lateral ventricle. A distinct sac could be perceived investing the tumour on all sides, excepting anteriorly, where the surrounding brain was so softened as to fall down in a diffluent, puruloid mass.

The surface of the sac was smooth and glistening, of a light fawn colour. The optic thalamus of the *right* side was decidedly darker than that of the left side. The right ventricle contained a drachm of serum, the left was unavoidably lacerated and its contents escaped. There was a free escape of serum from the base of the brain, on its removal from the skull. The cerebellum and medulla oblongata seemed natural. The tumour weighed ℥iv ʒvii, was four inches long by two and a half broad, and quite firm to the touch. It was undoubtedly encephaloid in its character.

The following particulars I have recently learned by a letter from Dr. Hosea Fountain, of West Somers, in this county, who removed the testis. Dr. Fountain says, "About a year before this was removed, Hutchins came to consult me; his testicle was then enlarged but little. He had been told it was hydrocele, and he wished me to tap it. His health appeared then good. There was, however, a slowness of motion and of speech I had never observed in him so much before. I do not remember that he showed any symptoms of head disease at this time. I advised the removal of the testicle at once. He was unwilling to submit to it, but went to a quack and worked for him in the field through the season with the hope that he would cure him. When next he came to me, six or eight months or more afterward, his appearance had changed much. The testicle was enlarged and painful. There was a difficulty about making water; I do not remember of what nature this was. His eyes had a vacant, glassy look; vision was imperfect, at times worse than at others, and one eye was worse than the other. In walking, his gait was unsteady, hesitating and wavering; the pulse slow, speech and motion very slow. I refused doing any thing for him, telling him he must die. Some months after this, the unfavourable symptoms had increased. He talked like one in a reverie or partly asleep; at times he was almost blind.

"I suspected disease of the brain, but from the symptoms supposed it was *softening* from deficient action." Subsequent to this, Dr. F. was induced to remove the testis, for another physician into whose hands his patient had fallen. "After the operation, upon pressing the spermatic cord near the divided surface, a white cheesy looking matter oozed from the whole of the divided surface. On dividing the testicle, the surface presented was white and moderately firm toward the surface, becoming softer internally; the central portion was semi-fluid, not purulent; the whole appeared to me as medullary matter. In his best and healthiest times, Hutchins was slow and awkward in his movements, but a strong and able worker, and apparently a healthy man." The wound made by the operation healed readily.

Malignant Disease of the Testis and Lungs.—Baptiste ——, aet. 30, a native of Germany, was admitted August 10, 1849, with a large scrotal tumour. The account which he gave through two interpreters, at different times, was this. He had not been aware of any swelling in that region until two weeks prior to his admission. At that time, while engaged in handling heavy stones on the Hudson River Railroad, the right testicle was accidentally struck by an iron crow-bar. He soon noticed its increase in size, and in *two weeks* from the receipt of the injury, at the time of his admission, the tumour had attained about the size which it now presents after removal from the body, being about as large as the head of a child six months old. Its surface was irregular and lobulated, with numerous large veins passing in deep channels transversely across it. At one point there was distinct fluctuation. The lower part when compressed between the two hands afforded a gurgling not unlike that produced by the yielding of the intestine during the reduction of a hernia. This

was observed by another physician; this, with the fact of its following violent exertion, and attaining so great a size in so short a time, induced, on an imperfect examination, a suspicion of its being a hernia. No connection, however, could be traced between the tumour and the abdomen; and this circumstance, together with the malignant aspect of the countenance, made it clear that it was a malignant disease of the testis. The cord appeared free from disease, and it was resolved to give him the chances afforded by a removal of the diseased organ. There was a good deal of activity in the tumour, and he complained very much of heat and pain in the organ. The surface was at two particular points, of a bright red and hot to the touch. On visiting him two days afterwards, he was observed to cough, and his expectoration was very copious and rusty. The right lung sounded dull on percussion, laterally; there was diminished clearness of respiration, some mucus but no crepitant rale. Pulse was about 100, full and rather hard, the skin hot, and there was considerable thirst. He was treated with antimony in small doses, and afterwards was blistered. The rusty sputa disappeared, and was succeeded by the white frothy sputa of bronchitis; the dulness however remained, and respiration became less audible. From the time of the appearance of symptoms of congestion of the lungs, he rapidly lost flesh and his appetite. In a few days, the dulness, which had hitherto reached only to about the third rib, was found to extend quite up to the clavicle, and so very marked as to be observed by all the bystanders. Three or four times he lost a good deal of blood from a wound of one of the varicose veins of the surface which he had injured by scratching. His sufferings were very great, and he daily implored me for the removal of the disease, but an operation was of course out of the question. Belladonna ointment afforded some relief; opium he refused to take. During the time he was in the hospital, the tumour increased but little, not over two inches in its longest circumference. About two weeks before his death, he expectorated a pint of bloody froth, and a piece of what seemed to be disorganized lung, an inch long and half an inch in diameter. For some days before his death, the fecal discharges consisted of a small quantity of bright-coloured yellow fecal matter, and a larger quantity of a white pultaceous substance not unlike *blanc mange.*

He died, October 5th, just eight weeks from his admission, and, if the history derived from him is correct, only ten weeks from the appearance of the disease in the testis.

Autopsy eight hours after death.—Great emaciation. The tumour had lost its feeling of firmness and was flaccid, from subsidence of active congestion, giving the idea of its being chiefly fluid; it had also shrunk so as to measure precisely the same as when he entered the hospital weeks before. The varicose vessels ran down over the anterior part of the thigh and down over the perinæum; no arteries of any size were observed in the dissection. In the anterior part of the tumour the skin was so closely adherent as to be inseparable—there was no vestige of tunica vaginalis or of the testis, the tumour being covered by the thinned integuments of the scrotum alone. The cord was free from disease external to the abdomen; within that cavity a diseased gland was found lying in contact with the spermatic vessels. A large number of mesenteric glands were enlarged, and of a white colour; a few consisted of a soft brain-like matter, and equalled a small hen's egg in size. The liver presented no unusual appearance; the gall-bladder was distended with green bile, the spleen small and healthy, as were also the pancreas and kidneys; the stomach and intestines were not opened.

Great difficulty was experienced in removing the right lung, from its

intimate adhesions to the walls of the chest and to the diaphragm, in consequence of which it was much torn. The whole of it, excepting the apex extending to between the second and third ribs was converted into a solid mass of medullary disease, readily broken off in lumps and almost exactly like brain in colour and general appearance without its cohesiveness. The superior portion of the lung yielded an abundance of bloody froth when cut into, and it could not be torn. The left lung presented a few patches, which were emphysematous; in addition, there were several tumours of medullary matter disseminated through the substance of the lung, and embedded just beneath the pleura pulmonalis, an inch or more in diameter. A section of this lung presented the same bloody froth as that found in the apex of the other lung.

The heart was pale and flabby, and there was a hypertrophy of the right *ventricle;* the two ventricles differed but little from one another in thickness; the tumour weighed after removal, six pounds six ounces; the lung completely filled the left side of the cavity of the thorax. This testicle, and the tumour of the brain in the preceding case, are in the museum of the New York Hospital.

Remarks.—In the first of these two cases we are ignorant of the exciting cause of the disease, neither do we know whether its origin in the brain was simultaneous with its appearance in the testis, or consequent, or antecedent. From Dr Fountain's account, when the testis was so far diseased as to require removal, there was a slowness of gait and speech. Walshe says that an affection of the lymphatics and glands communicating with the diseased organs affords a means of ascertaining the order of succession in the development of the disease. The absence of any such affection of the inguinal glands, in the case of Hutchins, is perhaps negative evidence that the testis was not the organ primarily affected. In the case of Baptiste, there is quite conclusive evidence that the lung was first affected. However skeptical some may be as to the rapidity of the growth of the diseased testis, it is certain that at the time of his admission he was engaged in daily labour upon the railroad; he repeatedly stated that he observed nothing unusual about the testis until two weeks before his admission. At that time his whole appearance however was cachectic; we can hardly suppose that the constitution could have become contaminated in two weeks, and there can be little doubt that the disease of the lung had existed for several months; for cancerous diseases "may exist for a length of time in the most important organs—witness the brain, the liver, the lungs—without producing the least functional derangement."—*Walshe.* In the *New York Journal of Medicine* for 1847 is reported a case of encephaloid disease of the lungs, which the patient dated from "a sudden giving way in his side," which occurred while he was at work in the harvest field about a year and a half before his death; his health had not been good for some time previous to that. I have no statement as to the health of Baptiste previous to the accident to his testis. No cough was observed on his admission; certainly no dyspnœa; and I am under the impression that there were no rational symptoms of any disease of the lungs previous to the attack of congestion

which occurred on the second week after his admission. The disease, from being latent, became suddenly active, and thenceforward proceeded with rapid and fatal strides. It will be observed that the increase of the tumour after his admission was entirely disproportionate to its previous growth. Was there a transfer of active disease from the testis to the lung? Apart from the cachectic appearance, at a time when the injury to the testis was so recent, the pre-existence of the pulmonary disease is made probable by the coexistence of hypertrophy of the walls of the right side of the heart. This lesion, as is well known, frequently depends on obstruction of the pulmonary circulation. There was no marked dilatation, if any, connected with the thickening of the walls of the ventricle.

The rapidity of the growth of the diseased testis was certainly remarkable. Walshe, however, quotes from Andral a case of encephaloid growth of the omentum, extending from the greater curvature of the stomach to the pubes, which *daily* increased perceptibly, and which proved fatal in five weeks from its first appearance, and adds that he has himself seen instances of equally rapid growth in the extremities. A curious feature of Hutchins's case was the irregularity attending the loss and restoration of sensation and motion of the limbs, whatever may be the explanation of the matter.

Double Femoral Hernia with great dilatability of the Abdominal Muscles.—The patient had a femoral hernia in each groin of the size of a goose egg. During convalescence from an attack of dysentery, he was attacked with peritonitis, which yielded to treatment. Soon afterward, when standing, a fluctuating prominence was observed in the left iliac region, four inches by two and a half inches, in the direction of the muscular fibres. When the fluid had been removed after appropriate treatment, it was found that he could inflate himself, so as to cause several such protrusions where the abdominal muscles were deficient in tone. The fluctuation had been caused by the fluid effused in the attack of peritonitis falling into the pouch. He was supplied with a broad bandage, and discharged.

Gangrene of the Leg from simple fracture.—This took place in a man of about 40 years of age, who was brought in about a week after meeting with the accident. The fracture was caused by the fall of a bank of earth. There was no evidence of extensive or important injury to the soft parts. A line of demarcation had formed just below the knee, at and below which point, for several inches, the limb was of a dead charcoal black. The limb above the knee was emphysematous, and also the lower part of the abdomen. Under the use of brandy and quinine, the effusion of the gases into the subcutaneous cellular tissue was in part absorbed, and the jaundiced hue of the skin disappeared. He declined amputation, and lived eight or nine days after admission.

Compound Dislocation of Ankle-joint and Fracture of the Femur.—The patient was a young Irishman, æt. 20, of good health and habits, who was injured by the fall of a bank of earth. There was the dislocation of the ankle outwards, with fracture of the tibia and fibula quite close to the articular extremity, and the internal malleolus was broken off: about two and a half inches above the

latter was a laceration of the integuments, just admitting the extremity of the little finger. There was a simple fracture of the femur of the same limb at the junction of the middle and the lower third. The limb was placed upon a double inclined plane, and treated with cold applications. Reaction was not excessive; quite firm union of the fractured femur took place in three weeks. His general condition, however, was bad, and it became evident that his only chance for recovery was in amputation, which was performed below the knee by the flap method, on the 24th day after the receipt of the injury; the patient being rendered insensible by the inhalation of ether. He slept well on the night of that day; the next day there was increased heat of the skin, thirst, and pulse 130. On the third day his pulse was 140; he was quite comfortable in his feelings and the little pain which he suffered was referred to the foot. During the night the limb suddenly became swollen to twice its previous size; he vomited bile copiously, his skin became of a yellow hue, and when seen next morning the entire stump for five or six inches up the limb was one dark, fetid, gangrenous mass. He died on the next day. This result I attributed in part at least to the condition of the air in the hospital at the time.

Compound Fracture of the Leg.—This patient received an injury in the same manner as the two cases last related. He was an able-bodied, temperate man, about 40 years of age. The external wound, three inches above the external malleolus, just admitted the forefinger, and there was but little displacement; there was very free hemorrhage. He was made to inhale the vapour from a drachm of chloroform, and then on passing the forefinger into the wound there was discovered extensive laceration of the soft parts and comminution of the bones, the articular end being broken into three pieces. Amputation was advised, but obstinately refused. The limb was placed in a box of wheat bran, after reduction of the fibula, that of the fragments of the tibia being impracticable. On the fifth day, there was every appearance of gangrene. There were delirium, fetid discharges and great debility for about three weeks, when he began to improve. At the end of five weeks, there was union of the bones sufficient to sustain the limb when held up by the heel. Discharge continued, and in a few days he began to sink, and died two months after admission. The bones of the joint were almost completely denuded of periosteum and cartilage. There was a similar condition of the articular surfaces of the bones of the elbow joint of the left arm, which had suffered an apparently trifling contusion at the time of the accident, also an abscess between the muscles and the bones.

Of fractures, those of the clavicle, in accordance I believe with general experience, have been the most frequent. They have been treated sometimes by directing the patient to lie on his back till union takes place—a direction, by the way, which poor-house patients rarely find fault with, the elbow being generally supported by a sling. In compound fractures, the limb has been treated by being placed in a box partially filled with wheat bran, in which the limb lies imbedded; this is a particularly convenient mode of treating accidents attended with suppuration.

Anæsthetic Agents.—Chloroform and sulphuric ether have both been frequently employed for anæsthetic purposes, and generally with most gratifying consequences. Ether has been used in preference to chloroform, from an impression that its exhibition was less hazardous. It has been used almost

indiscriminately in cases of dislocations, in reduction of fractures, in the examination of extensive wounds of the soft parts, and previous to making incisions for the evacuation of pus in deep-seated abscesses, in phlegmonous erysipelas, periosteal inflammation of the fingers, &c. The effects of these agents have been most gratifying in the reduction of dislocations, which, after its administration, has been effected with very little exertion.

In only one case of labour was chloroform resorted to. Its administration was followed by an almost entire cessation of the pains, which continued so long as the patient was at all deeply influenced by it. By keeping her but moderately affected, the action of the uterus was not interfered with, and she was delivered in a condition of partial insensibility. In private practice I have administered both chloroform and ether in cases of labour, with none but the most happy effects; and in none but the above instance have I seen the strength of the pains affected by either of these agents.

Cholera.—During the summer of 1849, the cholera made its appearance, close upon the heels of ship fever, when the house was just beginning to recover its ordinary condition of health. Up to this time, there had been no case of cholera, so far as I can learn, between this place and New York, nor was there any evidence of its introduction from that city. Repeated warnings had been given the inmates that they should apply for medical aid the moment that any one should perceive in himself any disposition to diarrhœa, but as yet few if any had presented themselves, when two men sleeping in beds almost adjoining were suddenly taken with cramps, vomiting and diarrhœa, after midnight, and before noon were both dead. On the same day, a female at the opposite end of the establishment was similarly seized, and died within twenty-four hours. From this there were some three or four new attacks daily among the inmates of the house. The paupers at this season of the year were the infirm and aged, children and lunatics. Upon the latter the pestilence fell with the greatest severity, about one-half the victims being from these unfortunates. It was impossible, in general, to learn anything of their condition until the disease was fully developed.

Immediately on the appearance of the disease, it was discovered that a large number had for many days been suffering from diarrhœa, which they had kept concealed from the keeper and medical attendant. During the continuance of the cholera, cases of diarrhœa were constantly occurring, and every patient seized with cramps, vomiting and serous discharges from the bowels, so far as could be ascertained, had laboured under diarrhœa for several days previous. Not a few suffered themselves to run down under continued diarrhœa, without applying for aid, until too late, notwithstanding the daily warnings from the death of those around them. One nurse had three distinct attacks of cramps, vomiting and serous diarrhœa within five or six days, each traceable to reckless imprudence, and completed his week's work by catching a mess of fish on the Sabbath, and cooking them by stealth; and within a

half hour after eating the same he was dead. This is not a solitary illustration of the abject moral condition to which the inmate of the almshouse has too often, I may say, generally fallen.

In the treatment of cholera, we had unquestionable evidence of the utility of calomel and opium. The usual mode of administration was that of from three to five grains of calomel and one of opium every two hours, until the action of the liver became re-established. The reappearance of bile in the evacuations was anxiously looked for, and when observed it was regarded as indicating a favourable turn in the course of the disease. In one instance, the attack being very sudden and severe, one grain was given every ten minutes, with three or four drops of laudanum, and the patient recovered.

In one case of collapse, scalding water was applied to the abdomen, and calomel given in one-half drachm doses every half hour, for two hours; but the result in this instance did not encourage a repetition of such heroic practice, even in desperate cases. There were but two examples of secondary fever following reaction from collapse, and both proved fatal.

In the latter part of the epidemic, my attention was directed more to the necessity of controlling the diarrhœa, as such. The constant prevalence of diarrhœa, during the entire epidemic, presented what seemed to be a series of examples of cholera from its simplest up to its most grave and fatal forms; and pressed upon the mind most forcibly the conviction that all these cases were the result of the same morbific cause; and we were compelled to admit the conclusion, now so generally entertained, that the diarrhœa is not a premonitory, or *admonitory* symptom, but the first stage of the disease itself; not that every case of diarrhœa would, if left alone, have terminated in collapse; but that any of them *might* thus terminate.

In the treatment of diarrhœa, a mixture of aqua ammonia, spirits of camphor, tincture of opium and tannin was kept prepared, and directed to be freely given to those who applied for relief. This, with a recumbent position, was generally successful.

During the state of collapse, frictions with capsicum were found more effectual in inducing reaction than any other agent. The vapour and hot air bath were faithfully tried, but little benefit resulted from their employment. Conjoined with frictions, was the moderate use of the solution of chloroform in camphor and spirits of nitre.

The theory of the dependence of cholera upon the existence of an agent in the atmosphere called ozone, and the fact of its being neutralized by contact with sulphurous acid gas, early attracted our attention. It was evident that the combustion of but a small quantity of sulphur would be sufficient to neutralize all the ozone the atmosphere of the buildings might contain. A quantity of flowers of sulphur were stirred into a strong solution of nitre, until the whole was of the consistence of cream. Several yards of common lamp-wick were then dipped into the mixture, and after being withdrawn, were dried in the sun, thus forming a slow match, encrusted with sulphur. A

coil was put in each room, on a plate of metal, and set on fire at one end. A little attention was required every hour or two, to renew the coil when burnt out, and the apartments were by this means constantly filled with an odour of sulphurous acid, just barely perceptible. Should it ever be deemed desirable to push the experiment on this alleged influence of sulphur fumes, in destroying the morbific poison, this is confidently recommended as a convenient mode of securing a continuous and moderate supply of the sulphurous acid gas. Our limited experience does not warrant the expression of any opinion upon the utility of the measure. Unfortunately, in consequence of the great press of duties at the time, I neglected to test the presence of ozone and the effect of the sulphurous acid gas, if any, upon it, by iodide of potassium. There were, during the epidemic, forty-seven cases and twenty-seven deaths.

Dysentery.—Very soon after the disappearance of cholera, *dysentery*, which was then prevalent in the surrounding country, made its appearance in the house. Both here and in the neighborhood the character and progress of the disease seemed to be modified by the cholera atmosphere. There was in many instances a degree of prostration attending the disease which could not have been anticipated, and which must have been due to atmospheric causes.

In the treatment, reliance was placed on opiate enemata, nitric acid and laudanum, mucilage, fomentations, or blisters to the abdomen very early if fomentations failed to relieve the pain and tenderness. When there was marked deficiency of biliary secretions, calomel was employed, usually in small quantities, as one-sixth of a grain of calomel with an equal quantity of opium and a half grain of ipecac. every two hours. The gums were frequently tender in twenty-four or thirty-six hours, and then convalescence was confidently expected. In a severe case of diarrhœa attended with great prostration, after the failure of many other remedies a half drachm of sulphate of zinc was given in an enema with a pint of water and two drachms of laudanum. The patient rallied at once and recovered. Nitrate of silver was frequently given in enemata, of the strength of fifteen grains to half a drachm, to the ounce of water, followed immediately by an enema containing a drachm or two of laudanum to relieve the tenesmus caused by the caustic.

I may remark that this treatment was adopted first in private practice, in the case of an old gentleman who was labouring under a severe chronic diarrhœa, the sequel of a grave attack of dysentery. At the end of the fifth week, when a large number of remedies had been resorted to in vain, among which were enemata of strong solutions of sulphate of zinc, of acetate of lead, of opium, and of tannin, and the administration of the same by the mouth, a solution of half a drachm of the crystallized nitrate dissolved in an ounce of rain water was thrown up the rectum by a glass syringe. It was not retained a minute, and caused a good deal of tenesmus for some time after the injection

of starch and laudanum, which was given immediately. Previous to this, his discharges had generally occurred as often as once in two hours. He now had none for fourteen hours, and in the remaining ten hours had five, but they were less in quantity than before. All medicine by the mouth was suspended except a few drops of sweet spirits of nitre. During the next twenty-four hours he had five dejections, small and quite consistent. That day he had another enema containing only fifteen grains of the caustic followed by the opiate, and during the next twenty-four hours he had but three dejections. From this time he gained strength, and in eight days from the first employment of the nitrate of silver he was walking about the house; more or less irritability of the bowels continued through the winter following, owing to his uncontrollable determination to eat and act just as he pleased.

Ship Fever.—It has been already remarked that a large number of our cases of fever occurred in persons employed on the railroad. Many of these had been in this country several months, and several two years or more. The symptoms presented by them were, nevertheless, identical with those in persons recently landed. The conditions under which such persons live are abundantly favourable for the development and propagation of the poison of typhus; the shanties which they occupy being crowded to excess. I have notes of nearly one hundred cases, but from the imperfection of the details in several, I shall only give a few general results.

During the prevalence of ship fever, we had several cases of common bilious remittent, but never a perfectly well-marked case of typhoid fever as seen in the New England States.

The earlier symptoms were almost uniformly stated to be, chills followed by flushes of heat, and pain in the head, back and limbs; sometimes in the head and none in the back and limbs, and in other cases severe pains in the back and extremities without headache. Accompanying these there was almost uniformly a sense of great debility; in two cases there was great depression of spirits; sleep was very generally disturbed by bad dreams; nausea was occasionally complained of, but not generally; the bowels were generally torpid on admission.

When the disease became fully developed, complications were of frequent occurrence, and were universally met with in fatal cases. In the winter and early spring, bronchitis complicated almost every case; later in the season, the abdominal and cerebral organs were those most generally involved. Bronchitis, though in many instances severe, was fatal in only one case; two died from pneumonia.

In a few cases, the force of the disease fell upon the brain from the first. These patients were early seized with general tremulousness of tho whole system with insomina, and more or less delirium; at first only at night, but at a very early stage of the disease, constant. In one case violent convulsions took place repeatedly during two or three days preceding death. Lesions of

the brain afforded the prominent symptoms in at least three-fourths of the fatal cases.

The tongue was almost uniformly covered in the middle with thin white fur, the tip and edges being of a brighter red than natural. Later, the white fur became yellow and thick, and in bad cases brown. In several cases there was inflammation of the fauces. There were two cases of parotitis of one side, which resulted in suppuration, both fatal. Some tenderness of the abdomen existed in a large proportion of cases; diarrhœa was by no means of general occurrence.

The pulse averaged from 115 to 120; in grave cases they reached 140 and remained so for several days. In only two cases was the pulse observed to be below the healthy standard, in these it was only 50 during several days.

Petechiæ were not always found; they were absent in at least one-third of the cases. When they occurred they were usually abundant, scattered over the extremities as well as the trunk, of a dingy red, and resembling somewhat in general aspect the eruption of measles. They did not entirely disappear on pressure. Their general duration I am unable to state; in one case in which they were of a bright rose colour, and not unlike those in typhoid fever, they disappeared on pressure and lasted six days.

Convalescence was quite generally preceded by a critical sweat, in a few instances by diarrhœa or epistaxis; but so far as could be observed, they did not occur on any particular days. It was, however, frequently difficult to determine from the patient's account the date of the commencement of the attack. For this reason the entire duration of the fever could not be correctly ascertained, but from a rough estimate, it was not far from sixteen days.

The mortality was about one in five.

Relapses were of very frequent occurrence and seemed to arise without any assignable exposure or imprudence. There was at least one case of the occurrence of the fever in the same person three times in succession, the patient having had an interval of health of a few days in which he was able to work.

There could be no doubt of the infectious character of the disease. During the winter 1847 and '8 the two attending physicians fell victims to the disease; soon after another experienced it. A medical student was also seized, and almost every nurse suffered severely from it; and as has been already stated it eventually prevailed among the inmates of the establishment.

The treatment was for the most part very simple. In most cases a dose of castor oil was required on admission. The surface was directed to be washed with soap and water and the patient put upon spt. mindereri, a tablespoonful three times a-day. Nausea was overcome by sinapisms to the stomach and the application of ice; tenderness of the abdomen generally yielded to a blister, when hot fomentations failed. If there existed any particular disturbance of the nervous system, two to five grains of camphor and half a grain or a grain of ipecac. were given every three or four hours. The solution of camphor in chlo-

roform was given with good effect in the same class of cases. Cold applications to the head were often required, and blisters to the nucha or to the shaved scalp, often acted most admirably in subduing cerebral irritation. Dover's powder and camphor, ten grains of the former and five of the latter, were uniformly given when the patient did not sleep well at night, unless there were symptoms of coma, or satisfactory coincidence of active inflammation of the brain.

Stimulants were in most cases required at an early date, and their effect in allaying irritability of the cerebro-spinal system was often very gratifying. One prominent cause of the large mortality was the faithlessness of attendants, who often drank the stimulants intended for the sick.

But few post-mortems were made. In two instances in which violent delirium had existed, meningitis was discovered. In the only instance in which I had the opportunity of making a thorough examination of the whole body, inflammation of the arachnoid of the upper surface of the hemispheres, with opacity and thickening was very strongly marked. The spleen was enlarged and readily broke down under the fingers. The liver was apparently healthy. The intestinal tube was carefully examined, and not the slightest appearance of inflammation or enlargement of the glands, or inflammation of the mucous surface could be observed.

The average age of patients was 27 years.

Intermittent Fever.—This, I have almost uniformly treated, by giving ten grains of quinine in powder, some four or five hours previous to the anticipated recurrence of the paroxysm. One dose has almost uniformly effected a cure. In some instances it has failed to arrest the expected attack, from its occurring at an earlier hour than before, or from the patients delaying too long the taking of the medicine. Nevertheless, in these cases, subsequent attacks have been prevented. I may remark that the quinine in the large doses referred to does not produce physiological effects proportional in intensity to the quantity taken. Not unfrequently have ten grains been given, without producing any of its ordinary physiological effects.

Ferro-prussiate of iron has often been employed, and with advantage, though it cannot be compared with quinine as an antiperiodic. Two cases were under treatment for several months, during which they were subjected to the effects of quinine in large and small doses, of Prussian blue and of arsenic; and proper attention was at the same time paid to a regulation of the various functions of the body. In one there was no evidence of any local congestion; in the other there was some enlargement of the liver; neither was cured. The case of the latter was rendered interesting, from certain anomalous symptoms connected with its progress.

In September, he entered, with tertian intermittent, which readily yielded to quinine. He went out and worked, and at the end of a month again entered, and was under treatment a month, and discharged, and in about four

weeks was re-admitted. He now had sometimes twenty "shaking fits" daily, sometimes of the head alone, at others of various limbs. At night, the bed was often heard shaking.

After awhile he suffered from intense neuralgic pains in the head. At the end of three months, his condition was as follows: In addition to the severe pains in the head and face, "pulse 66; respiration 130 *in a minute.*" Of the frequency of the respirations, there was no room for doubt. I repeatedly counted the respirations during an entire minute, and there were that number of distinct inspirations in that period. At this time, "the pupil was seemingly somewhat contracted; but there were no evidences of cerebral congestion. When his attention is arrested, he starts up as from a doze; *breathes naturally while engaged in conversation*, and talks naturally; but on letting him alone, the rapid respiration returns, and he lies on his back, with his eyes wide open, as if insensible. Bowels have been torpid, but are readily moved by croton oil." He remained in about the same condition for six months. The paroxysms of rapid breathing continued to recur at intervals, lasting for several hours at a time. Between these, it was not uncommon to find him apparently very comfortable, and he would speak of himself as feeling "first rate." The only local lesion that could be detected was an enlargement of the liver; it descended about a finger's breadth below the edge of the ribs. His emaciation was extreme. He died of dysentery, during the epidemic, having inflammation of the fauces. No post-mortem examination could be obtained.

ART. V.—*Statistics of the Boston Lying-in Hospital.* By D. HUMPHREYS STORER, M. D., one of the Physicians of the Massachusetts General Hospital. (Read before the Boston Society for Medical Improvement, July 8th, 1850.)

SEVERAL of the gentlemen present may remember that I read a communication to this Society eight years ago, upon several hundred cases of midwifery which had occurred in my own practice. In that paper, I apologized for its meagerness, upon the ground that the private physician could not present such detailed accounts of his cases as those who were connected with public institutions, where the opportunities for study were more numerous and greater attention was devoted to minutiæ. Having been connected with a small lying-in hospital for a period of four years, since those remarks were made, and having consequently possessed the advantages which that institution afforded, I feel in a manner compelled to present to you its statistics, limited though they are, as accurately prepared as I have been able to arrange them, from its foundation to the period of my leaving it.

My predecessors in office were Drs. Channing, Hale, Osgood, and Putnam.

In preparing this paper, I have made the most free use of their records. Unable to determine, in most instances, under the care of which of those gentlemen individual cases have been treated, I have scarcely referred to either of them by name. Most faithfully have they each performed their duties.

1. *The whole number of Children.*—In 451 deliveries there were 456 children; in five cases twins occurred. In 331 cases, of which accurate notes have been kept, I find there were 132 males and 199 females.

2. *Age of the Patient when delivered, in* 451 *cases.*

Age	16	17	18	19	20	21	22	23	24	25	26	27	28	29
No. delivered	1	2	11	17	18	30	42	39	29	36	34	25	32	20
Age	30	31	32	33	34	35	36	37	38	39	40	42	45	47
No. delivered	22	7	22	9	6	12	8	6	11	3	6	1	1	1

The youngest woman delivered was 16 years old, the oldest 47.

The greatest number of deliveries occurred at the ages of 22, 23, 25, 26, 28, and 21.

3. *Number of times each Patient has been Pregnant in* 417 *cases.*

No. of pregnancies	1	2	3	4	5	6	7	8	9	10	12	16
No. of patients	193	88	40	25	23	18	14	8	2	4	1	1

By this table it is seen that the whole number of pregnancies of the 417 patients was 1060—that the greatest number of times any woman had been pregnant was 16, which occurred in but one instance—that 193 of the cases were primipara—and that the average number of times each had been confined was 2.

4. *Last Menstruation in* 201 *cases.*

No. of days	279	278	277	276	275	274	273	272	271	270	269	268	267
No. of cases	7	8	11	9	4	6	6	6	8	20	2	4	2
No. of days	266	265	264	263	262	261	260	259	258	257	256	255	254
No. of cases	5	9	9	3	5	4	7	4	3	2	1	4	2
No. of days	253	252	250	249	246	245	244	243	242	240	236	228	220
No. of cases	4	2	6	1	2	2	2	3	1	11	1	1	1
No. of days	215	213	212	207	195	180	162	150	120	69	57		
No. of cases	1	2	1	1	1	2	1	1	1	1	1		

The longest period, previous to delivery, of the last menstruation, was 279 days—the shortest was 57 days; of the former were 7 cases, of the latter 1. The average number of days at which menstruation occurred previous to confinement was 256, or 36 weeks.

In two cases, menstruation occurred during each month of pregnancy. In one of these cases, the patient was 38 years of age, and this was her eighth pregnancy. The records read thus—"Has *menstruated during the whole of pregnancy.*" Had never menstruated during a former pregnancy.

In the other case, the patient was 36 years old, and she was in her

"sixteenth pregnancy. She had had 12 children, and 3 miscarriages. The first successive 5, were females; the last 6, males. She had been married nineteen years—nursed all her children—*menstruated regularly during the whole period of her pregnancies.*"

5. *The period of Quickening in* 158 *cases.*

Days before confinement	60	83	86	90	93	96	100	106	109	110	111	113	114	116
No. of women . .	1	1	1	1	1	1	2	1	1	3	1	1	1	1

Days before confinement	118	119	120	121	122	124	125	126	128	129	130	131	132	133
No. of women . .	1	1	6	1	1	2	3	1	1	1	5	4	4	2

Days before confinement	134	135	136	137	138	139	140	142	143	144	145	146	147	148
No. of women . .	1	5	1	6	3	4	8	1	2	3	5	4	2	2

Days before confinement	149	150	152	153	154	156	157	158	159	160	161	163	164	165
No. of women . .	1	8	2	2	2	3	2	1	4	4	3	2	2	4

Days before confinement	166	168	169	171	173	174	175	176	180	186	187	188	192	199
No. of women . .	1	2	1	1	2	1	1	2	2	2	2	1	1	1

The least number of days in which quickening took place previous to confinement was 60—the greatest number of days previous to confinement was 199; of the former was 1 case, as well as also of the latter. The average number of days at which quickening occurred was 142.

A woman, aged 25, in her first pregnancy, stated "that she had never during her pregnancy experienced nausea or vomiting, nor felt quickening."

6. *The Duration of Labour in* 433 *cases.*

Hours in labour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
No. of women	12	28	23	26	41	38	27	22	23	21	12	21	13	10	10	19	5	13	6	6	2	5

Hours in labour	24	25	26	27	28	30	31	32	33	34	35	36	37	40	41	42	45	48	53	58	70	74	88
No. of women	8	6	3	2	5	2	2	3	1	1	1	4	1	2	1	1	1	1	1	1	1	1	1

The least number of hours any woman was in labour was 1—the greatest number of hours was 88; of the former there were 12 cases, and of the latter 1. A greater number of labours occupied 5 hours than a longer time—and next in frequency were those completed in 6, 2, 7, 4, 3, 8, 10, and 12. The average number of hours was 11¾.

In the 5 most protracted cases mentioned above, the mother did well in each instance, and in 3 of the cases the child was saved.

The case occupying 53 hours was one of mere inefficiency of pains.

That case which was terminated in 58 hours was rendered difficult by the presentation of "the right arm with the funis." The membranes broke without any pain being present, and the patient was not seen until several hours afterwards, when the arm and funis were found in the vagina. The child was immediately turned, but was *still.*

In the case in which labour was delayed 70 hours before its completion, a "sudden discharge of the liquor, without obvious cause," took place before the os uteri had become sufficiently dilated to expel the child.

In the case in which labour continued 74 hours, the *size of the child alone* appeared to be the only obstruction. The mother, twenty-five years old, had

had two children, each of which, according to her account, weighed upwards of eleven pounds. She was in pretty good health, the presentation was natural, and she sustained her labour so well that I was unwilling to interfere—and eventually she gave birth, unaided, to a living male child, weighing twelve and a half pounds—the largest child which had been born in the institution.

In the remaining case, which occupied 88 hours, the left foot and head presented—the head considerably higher than the foot. "Some efforts were made to draw down the foot and push up the head, but finding the head most disposed to descend, the foot was supported during the pains, and the head came down."

7. *The time of Birth.*—In 428 cases, 214 occurred between the hours of 7 A. M. and 7 P. M.; and 214 cases between 7 P. M. and 7 A. M.

These results differ from those in 280 cases published by me in the *New England Quarterly Journal of Medicine and Surgery* in 1843, and also 440 cases published by Dr. Metcalf, in the *American Journal of Medical Sciences* for October, 1847—in each of which a larger number of births are stated to have occurred during the night than during the day.

8. *The Months at which Delivery occurred in* 451 *cases.*

Months,	Jan.	Feb.	Mar.	Apr.	May	June
No. of children,	53	43	30	46	38	35
Months,	July	Aug.	Sep.	Oct.	Nov.	Dec.
No. of children,	46	26	35	31	41	27

The largest number of children were born in January, and the smallest number in August.

9. *Weight of the Children in* 406 *cases.*

Weight,	¾lb.	1	2	3	4	4¾	5	5¼	5½	5¾	6	6¼	6½	6¾	7
Male,	1			1		2	2	2	9	3	8	1	18	8	17
Female,	1	1	1	1	2	1	3	2	6	5	9	10	9	7	14
Weight,	7¼lb.	7½	7¾	8	8¼	8½	8¾	9	9¼	9½	9¾	10	10½	10¾	12½
Male,	11	27	15	28	7	11	2	14	2	12	5	3	1	1	1
Female,	10	25	14	24	6	11	7	7	2	3		3			

The number of males in the above table was 222, whose aggregate total weight was 1669½ pounds; and the average weight of each was 7½ pounds.

The number of females was 184, whose aggregate total weight was 1309¾ pounds, and the average weight of each was 7⅛ pounds.

It will be observed that the weights of the above children fall considerably below those of the cases reported by me in the first volume of the *New England Journal of Medicine and Surgery*, and also of those registered by Dr. Metcalf in his paper previously referred to. I can account for this only by the fact that the great mass of his cases, if not every case reported in those communications, referred to American mothers, whereas the *vast majority* of the mothers of the children, included in the table here presented, were fo-

reigners. That my reasoning is not fallacious, will be perceived by the following table.

Of the 21 children which weighed 9 pounds, the mothers of 8 were Americans.

Of the 4 children which weighed 9¼ pounds, 3 had American mothers.

Of the 15 which weighed 9½ pounds, 9 were children of Americans.

Of the 5 weighing 9¾ pounds, 4 had American mothers.

Five of those which weighed 10 pounds were children of Americans.

The one weighing 10¾ pounds, as well as that weighing 12½ pounds, were children of Americans.

In other words, of the 54 children which weighed 9 pounds and upwards, 31 had American mothers; although three-fourths of all the children born in the hospital had foreign parents.

The 4 children weighing less than 3 pounds were premature and *still.* Those weighing 3 pounds were born alive; one of them "died soon after leaving the hospital," which occurred ten days after its birth.

10. *The comparative length of the Males and Females in* 399 *cases.*

No. of inches,	14½	15	16	16¾	17	18	18½	19	19¼	19½	20
Males,		1			2	3	3	25	1	3	38
Females,	1		1	1	1	5	2	10		4	33

No. of inches,	20½	20¾	21	21½	22	22½	23	23½	24	25	25½
Males,	5	1	53	5	43	7	10	2	6	1	1
Females,	3		48	5	38	3	10	1	1	1	

In 399 cases, 230 were males and 169 females.

The greatest length seen in the males was 25½ inches. The least was 15 inches.

The greatest length in the females was 25 inches. The least was 14½ inches.

The average length of the males was 18 inches. The average length of the females 20 inches.

It will be seen that in this table the average length of the females is greater than that of the males, thus differing from the usual statistical tables.

11. *The length of the Funis in* 229 *cases.*

Length,	4½	9	10	11	14	15	16	17	18	19	20	21	22	23
No. of cases,	1	1	1	1	1	1	4	7	12	9	8	11	19	22

Length,	24	25	26	27	28	29	30	31	32	33	34	35	36	43
No. of cases,	28	11	25	18	9	13	14	4	5	2	1	2	1	1

It will be seen by the above table that the most common length was two feet; the next in frequency was 26 inches, and the next 23 inches. The longest being 43 inches, and the shortest 4½ inches. Such a diversity of opinion exists with regard to the length of the cord that I shall refer to an interesting paper upon this subject by Churchill.* In his communication he presents three tables of measurements of the funis, by Dr. Adelman, of

Fulda, Professor Henne, of Konigsburg, and himself. In the first table, made up of 40 cases, the most common lengths were 18 and 16 inches. In Professor Henne's table of 130 cases, 22 and 20 inches were most frequent; while the most common lengths in Churchill's table, composed of 212 cases, was 18 inches, and next in frequency two feet. Negrier† measured 166 cords—28 were 17 inches long, 112 were from 17 to 25½ inches long, and 26 above that length. In a table of 89 cases, published by myself in the paper previously referred to, cords of 18 inches in length were most common, and next those of 27 inches.

The longest cord in either of the tables presented by Churchill is 54 inches, and the shortest 12 inches. In the table I now present, one cord is observed 10 inches in length, one of 9 inches, and one only 4½ inches long. From the fact that in the three tables contained in Churchill's paper, together with that of Negrier and my own previously published, comprising together 537 cases, not a case occurs of a cord measuring less than 12 inches; it would appear that shorter cords must be quite rare. The cords measuring 9 and 10 inches in the table here published were measured by the attending accoucheur; the cord of 4½ inches was measured by the nurse of the institution, and Dr. Putnam, who was the physician of the hospital at that time, stated to me that he has no doubt of the accuracy of the measurement.

Although several writers speak of the umbilical cord measuring from a few inches to six feet, cases of the latter length must be very unfrequent. Dr. George N. Thompson of this city has lately published a case in the *Boston Medical and Surgical Journal*,‡ in which the cord measured 5 feet and 9 inches in length.

In the *British and Foreign Medico-Chirurgical Review* for April, 1850, I find the following notice of a funis of remarkable length, copied from *Caspar's Wochenschrift*, 1849, No. 41, reported by Dr. Neugebauer.

"After a natural labour, the funis was found coiled round the child's body six times. It was of normal structure, but very thin, and is supposed by the author to be the largest on record. It measured 67½ Scheleswich inches (1.653 metre). Busch, in 2077 births, found only four examples of the funis measuring from 40 to 46 inches. Osiander mentions one of 50 inches, as a most rare occurrence. Siebold indicates one of 52; Michaelis one of 53; Baudelocque one of 57; one of the last length having also been observed once in 12,329 births at the Prague Lying-in Institution. The longest previous to the present one was indicated as measuring 60 inches by Michaelis."

Dr. Tyler Smith exhibited to the Westminster Medical Society (Jan. 12, 1850) a funis, which, measuring from the attachment to the umbilicus to its insertion into the placenta, was 59½ inches in length.

* Dublin Journal of Medical Science, March, 1837, p. 21.

† On the length and strength of the umbilical cord at the full term of pregnancy.—*Edin. Med. & Surg. Journ.* April, 1846, p. 556.

‡ Vol. 42, No. 22, p. 451.

12. *Weight of the Placenta in* 151 *cases.*

Weight,	8oz.	10	12	1lb.	1¼	1½	1¾	2	2¼	2½
No. of cases,	2	1	12	26	41	38	16	9	2	5

The above table shows the weights most frequently met with were 1¼, 1½ and 1 pound; most writers upon midwifery who refer to this subject consider the average weight as about one pound.

Of the 3 cases in which the placenta weighed less than 12 ounces, the child weighed in one case 5½ pounds, in one 7 pounds, and in another 7½ pounds.

Of the 15 cases in which the placenta weighed less than a pound, the child weighed in one case 3½ pounds; in one 4¾; in one 5¼; in four 5½; in two 6; in two 6½; in one 7 pounds; in two 7½; and in one 9½ pounds.

Of the 16 cases in which the placenta weighed 2 pounds and upwards, the child weighed in one case 6¼ pounds; in one 7; in one 7½; in three 8; in three 8½; in one 9; in three 9½; in one 9¾; in one 10; and in one 12½ pounds.

Of the 5 cases in which the placenta weighed 2½ pounds, the children weighed in one instance 6¼ pounds; in two, 8½; in one, 9½; and in one, 12½ pounds.

The placentæ were weighed in but one case of twins, and in this instance they weighed 2½ pounds; the twins weighing together 12½ pounds.

From these data it appears that the weight of the placenta is not in all cases proportionate to the size of the child, although, generally speaking, there is undoubtedly a great correspondence. A remarkable instance of the disproportion which sometimes exists between the size of the child and that of the placenta is related by Dr. Kennedy* of Dublin. He says, "The placenta occupied more than half the surface of the uterus, and was as large as that in a case of triplets, which had been recently in the hospital."

13. *Insertion of the Funis.*—In 387 cases in which the insertion of the funis is recorded, it was inserted in the centre of the child's body 197 times. In the remaining 190 it varied from one-quarter of an inch to, in one instance, two inches from the middle parts. That the mother had concluded her pregnancy in this case may be believed from the fact of the child's weighing 9½ pounds.

14. *Twins.*—In 451 cases, there were five cases of twins. Three of these occurred in the first pregnancy. In one instance, the patient was seven and a half hours in labour; her children, a male and female, each weighed 4¾ pounds, and measured 17 inches. The placentæ were united.

In a second case, the patient was twenty-six years of age; the labour oc-

* Dublin Journal of Medical Science, November, 1838. Also, London Medical Gazette, Dec. 1839, No. 11.

cupied two and a half hours. The children, females, *both presented the head;* one weighed 6 pounds and one 6¼ pounds. Two placentæ.

In the third case, the patient, aged twenty-seven, had a very feeble constitution; had not been healthy for many years. Six months previous to entering the hospital, feet and legs began to swell, and at the time of her entrance had general anasarca. A fortnight before her entrance, she had an attack of cholera, owing to imprudence in diet, which at times was urgent and continued up to the time referred to. Three days after her entrance, labour pains came on and continued five hours, when two male children were born weighing 4½ and 6 pounds. The placentæ were united. The mother was at first much exhausted; for a time she was exceedingly feeble, but under tonics and diuretics the anasarca subsided, and in a month she was discharged "very comfortable." In this case the second child was born still.

In the remaining cases, one woman, was forty years of age, and this was her fifth pregnancy. After a labour of an hour and a half, she was delivered of two males weighing 4¾ and 6 pounds. There was but one placenta.

In the other case, the woman, thirty-seven years of age, was in her seventh pregnancy. After a labour of three hours, a male and female were born; the former weighing 7 and the latter 6 pounds. The first presented the vertex, and the latter the feet.

15. *Presentations in* 440 *cases.*

Presentations.	Vertex.	Breech.	Feet	Face to pubis.	Hand to head.	Hand to face.	Foot and head.	Vertex and funis.	Arm and funis.	Placenta.
	425	5	2	1	2	1	1	1	1	1

Three of the *breech presentations* occurred in the first pregnancy. In all of the cases the children did well; and in two of them, the mother. In the third case, the woman, 28 years of age, entered the hospital with general anasarca; the second day after her entrance, was delivered of a male child, weighing 5¼ lbs.; having been in labour 12 hours. On the second day after her confinement, she complained of general distress, and particularly of pain in the left hypochondrium, was unable to lie except on the right side, and with shoulders raised; occasionally vomited about a teaspoonful of blood. The right back was dull on percussion. The abdomen was somewhat tender—fluctuation distinct. Died on third day after delivery. No autopsy allowed.

Of the remaining two breech presentations, one occurred in a fifth pregnancy—and the other in a second pregnancy. In the former, the woman was 29 years old—and nothing abnormal had happened in her former labours. Now, the breech and funis presented; and after a labour of 6½ hours she was delivered of a male child, weighing 9½ pounds. During her labour, after the passage of one leg of her child, she had several attacks of fainting, and her

pains though severe were not effectual. Several fainting fits also followed upon her delivery. On the third day after her confinement, she complained of a swelling on the inside of the right thigh about the size of a dollar, which was followed by phlegmasia dolens, from which she recovered and in six weeks left the hospital.

In the latter case, the woman was aged 30; she was in labour 7½ hours, and gave birth to a living male child weighing 6¼ pounds.

In both of the *presentations of the feet*, the child was still. In one of the cases, the woman was twenty years of age, and this was her first pregnancy. She was 9½ hours in labour; and her child, which was a male, weighed 6½ pounds. The child was alive two or three minutes before it was expelled, but did not breathe afterwards, and could not be resuscitated, although numerous and long-continued efforts were employed.

In the other, the patient was twenty-seven years old, and this was her second pregnancy. She was in labour seven hours—her child, a female, weighed 6¾ pounds.

But one case is registered of the *face to the pubis*—this was in a second pregnancy; the patient being thirty-two years old. The labour occupied 6¼ hours—the child, a male, weighed 4¾ pounds.

Two cases are recorded of the *hand to the head;* both terminated favourably. In one of these, the patient was aged twenty-seven, and this was her first pregnancy; a loop of the cord protruded, and no pulsation could be felt in it. This was carried up over the vertex and occiput, and forced up behind the symphysis pubis. After a labour of 13½ hours, a female child weighing 6 pounds 13 ounces was expelled; at first its respiration was very feeble, but this was at last perfectly restored.

In the other case, the patient was aged twenty-five years, and this was her sixth pregnancy. The head was delayed somewhat at the orifice, notwithstanding the pains were very forcible. Besides the right hand of the child being applied to the head, the cord was also around the neck. The child, a male, weighed 7¼ pounds.

One case occurred in which a *hand was applied to the face.* The patient was twenty-five years of age; the number of her pregnancies not recorded. Labour continued 9 hours—the child, a male, weighed 7¾ pounds.

The *left foot and head* presented in one case. The labour continued 88 hours; the child, a male, weighed 5½ pounds.

In a single case, the *vertex and cord* presented; the patient was twenty-five years of age, and this was her first pregnancy. The labour continued 26 hours after the rupture of the membranes. The child, a female, weighed 7 pounds and 14 ounces; delivery by craniotomy. (See *Instrumental Labour.*)

An *arm with the funis* presented in one case. The patient was thirty years of age, and this was her third pregnancy. After being 58½ hours in labour, the child, a male, weighing 7½ pounds, was turned and delivered *still.*

The *placenta* presented in only a single case. The patient was twenty-six years of age, and this was her third pregnancy. Three days previous to delivery, she had slight hemorrhage. The hand was passed up at the side of the placenta, and the child delivered by turning; but little blood was lost. Both mother and child did well.

16. *The number of cases in which the Funis was around the Neck.*—In 444 cases, the cord was around the neck in 31 instances.

In 21 cases it was once around the neck.

In 7 cases it was around the neck twice.

In 1 case it was around the neck twice, and passed under the right arm.

In 1 case it encircled the neck three times.

Unfortunately, in only 9 of these 31 cases, was the funis measured.

In 5 of these cases, the funis was once around the neck, and measured in 4 cases 26 inches, and in one case 27½ inches.

In 3 of the cases, the funis was twice around the neck, and measured in one case 32 inches, in another 35, and in the other 43 inches.

In the case in which the cord encircled the neck three times, it measured 30 inches.

The length of the labour varied in these cases from 1¼ hour to 37 hours, as follows:—

No. of hours	1¼	2	2½	3	3½	4	5	5½	6½	7	7½	8	8½	9½	10	11	12	13	14	15	16¼	17	37
No. of cases	1	2	2	2	1	2	1	1	2	1	2	1	2	1	2	1	1	1	1	1	1	1	1

From the above data, *the length of the funis* and the *duration of the labour*, it would not appear that the process of delivery had been interfered with by the position of the funis around the neck.

As regards the child in the 31 cases referred to, it did well in 28 cases. In several cases, it cried immediately upon being born.

In one case where it was resuscitated, the record states "funis twice around the neck, has no pulsation; child was washed in alcohol, cried, and was well in a few minutes."

In a second case, the cord was very tightly coiled around the child's neck, so that previous to the exit of the shoulders, blood flowed freely from its nose and mouth; and the child was not perfectly resuscitated for nearly half of an hour.

Of the three still children, in which the funis encircled the neck, one was of a second labour, weighed 6¼ pounds, and nothing appears in the record to account for its death. "There was no pulsation in the cord, nor any other indication of life. The breast was sprinkled with alcohol, friction was employed, with artificial respiration, but without effect."

In the second case, the woman was thirty-seven hours in labour. Four days previous to her delivery, she was attacked *with bearing down pains followed by flooding*—and lost about a pint of blood at that time. The record

does not show whether the motion of the fœtus was felt after that time or not.

In the third case, the umbilical cord was around the neck, and under the right axilla. This was a second pregnancy, and the woman thirty-four years of age. The child, a male, weighed 9½ pounds. Labour continued 28 hours, and was terminated by the exhibition of ergot.

The above cases serve to corroborate the opinion of Churchill, that when the cord is of the ordinary length, labour is not delayed by its being coiled around the neck of the child. And the experience of Cade* respecting the fœtus being destroyed by apoplexy, produced by the pressure of the funis around the neck—and also the experiments of Negrier "that the umbilical cord is both long enough and strong enough to produce strangulation in a new-born infant, by being twisted round its neck after the head is delivered."

NOTE.—As the question was asked by several gentlemen, upon the reading of this communication, "How did Negrier arrive at his conclusions?"—and as others upon perusing it may be disposed to make similar inquiries, I present the following details from the *Edinburgh Medical and Surgical Journal*, April 1st, 1841, page 556: "A girl of bad character was accused of having strangled her child by means of the umbilical cord, before it was completely expelled from the uterus. As there was a difference of opinion amongst the medical men as to the possibility of the umbilical cord possessing sufficient strength or length for this purpose, Dr. Negrier performed a number of experiments for the purpose of ascertaining the strength of the cord, and measured it in 166 cases to arrive at its average length.

"Of the 166 cases, it was remarked that in 144 the umbilical cord floated free within the uterus; in 20 it was rolled around the neck of the child; in one it was round the shoulders; and in one between the thighs, the breast presenting in this case: 98 of the umbilical cords were not varicose, and 68 were varicose. As to length, 28 were 17 inches long; 112 were from 17 to 25½ inches long, and 26 above that length.

"The resistance of the umbilical cord was ascertained by attaching weights to one end of the cord until it ruptured, the weights being always attached to the placental extremity. About one-half of the cords were passed by their middle over a round bar, and weights attached till they gave way; the other half of the number were rolled once and a half round the same bar, covered with linen, so as to bring it to the diameter of a child's neck, when it was found that these supported a greater weight than those over the plain bar. The varicose umbilical cords were ruptured with a lesser weight than the sound cords, and generally gave way at one of the varicose dilatations. The mean weight which these varicose cords supported before they gave way was eight pounds Troy; the most resistant supported fourteen pounds seven ounces. The medium resistance of the non-varicose umbilical cords was four-

* Reflexions et observations sur l'entabillement du cordon ombilical autour du cou du fœtus.—*Encyclographie des Sciences Médicales.* Avril, 1841.

teen pounds four ounces Troy; but one cord required twenty-five pounds three ounces to rupture it.

"Dr. Negrier next made a few experiments to ascertain what weights suspended round the neck of an adult would produce such a degree of compression as to cause unpleasant feelings or strangulation. A weight of eight pounds was suspended to a cord passed once and a half round the neck, the back of the neck being upwards. The respiration was rendered difficult, and the brain strongly congested in two minutes. Vertigo commenced soon afterwards. The respiration, however, could be continued with difficulty. When the face was placed upwards, the effects of the congestion were more rapid; the respiration was much impeded, but was still possible; but Dr. Negrier thought that death would have resulted if this position had been maintained for a quarter of an hour.

"When the experiment was made with a weight of thirteen pounds, and the face downwards, rapid congestion of all the vessels of the head took place; the eyes became injected, and filled with tears; the respiration was very laborious, but was still possible. It was, however, dangerous to continue the experiment for two minutes.

"When the same experiment was repeated, but with the face looking upwards, the strangulation was almost complete. Respiration was so impeded that Dr. Negrier thinks death would have resulted in less than five minutes.

"From these facts, he infers that the umbilical cord is both long enough and strong enough to produce strangulation in a new-born infant, by being twisted round its neck after the head is delivered. A force applied to a cord equal to thirteen pounds would strangle an adult in five minutes, and a much less force would strangle a child."

17. *Instrumental Deliveries.*—In 451 cases, eight were delivered by the forceps and two by craniotomy.

Of those delivered by the forceps, six were in cases of the first pregnancy, one in a second pregnancy, and one in a fifth pregnancy.

Five of the eight children were born alive; of the remaining three, one patient was aged 32; this was her second pregnancy, and the child presented with the face to the pubis. After a tedious labour of twenty-five hours, a male child was delivered weighing 6½ pounds.

In a second case, the patient was 32 years of age, and this was her first pregnancy—at the expiration of twenty-seven hours her delivery was completed—the child, a male, weighed 8¾ pounds. "It had apparently been dead for several hours."

In the third case, the mother, aged 24, was in her first pregnancy; after a labour of twenty-eight hours she was delivered of a male child which weighed 7 pounds.

Of those cases in which craniotomy was performed, one patient was 28 years of age, and this was her first pregnancy. After thirty-six hours of

tedious labour, the head was perforated, and "the child was delivered with a great deal of difficulty, requiring much force to extract it. Child was very offensive, appearing to have been dead some time." The child, a male, weighed 7 pounds.

Previous to the operation being performed, she had become feverish and restless; the pulse was 100. The external parts were swollen and tender; a copious and offensive discharge flowed from the vagina, and vomiting was present. After delivery, the uterus at first contracted but little, and quite a profuse hemorrhage ensued, which was controlled by pressure, the application of ice, and administration of ergot. In about an hour her face became pale; the pulse was 120—the respirations were 40 in a minute, and there was great restlessness. In a few hours, the pulse became too rapid to be counted, the surface was cold, the respiration laboured and stertorous, and she gradually sank and died in about twenty hours after her delivery.

In the second case, the patient, 25 years old, upon her entrance to the hospital reported herself as never having enjoyed good health, and as having aborted once at her fifth month. On the 30th of December, 1837, the records state her as having had "distinct preparatory pains during latter part of night for a week past." On the 26th of January, "patient has had for some time a very considerable foul discharge from vagina." February 6th, "on examination at 9 A. M., os uteri was found dilated to a small extent." She continued to have more or less severe pains until the night of the 17th, when the membranes broke. Here follows Dr. Putnam's report, 288 hours after the uterus began to dilate: "At 9 A. M. (18th), os uteri dilated freely, vertex presenting with funis; no pulsation in funis nor in fœtal heart; pains frequent and strong; at 12 M. no progress; abdomen tender on pressure; 4 P. M., complains of headache; some progress in labour; pains continue; *head perforated.* After the collapse of the bones, the pains became stronger, and the labour was finished in an hour and a half. Female, 7 pounds 14 ounces.

"9 P. M. Has slept a little; says she feels comfortable; no headache; pulse 102; some thirst; some after-pains. ℞.—Tinct. opii, gtt. xx; sinapism to abdomen.

"19*th.* Slept well in night. Flowing considerable, but not excessive; after-pains not severe. In other respects comfortable. Pulse 66."

On the day after delivery peritonitis supervened, and for several days she was very sick, but gradually recovered, and left the hospital on the 30th day of March, "doing well."

18. *Still-born.*—I find twenty-seven cases of delivery, in which the child was not born alive.

One of those was an instance of arrested development.

Five were cases of premature delivery.

In two cases, craniotomy was employed.

Three were delivered by the forceps.

One was a presentation of an arm and the funis.

Two were presentations of a foot.

One was a presentation of the breast.

In one the mother had constant convulsions for two hours previous to delivery.

One child was putrid when delivered.

In one case no physician was in attendance.

One was the second expelled of twins.

Of the remaining eight cases, two occurred in the first pregnancy, and six in the second pregnancy.

Of those of the first pregnancy, one patient, aged twenty-four years, had a tedious labour of thirty-seven hours, and was at last delivered by the assistance of ergot.

Of those in the second pregnancy, one aged thirty-four, after a labour of twenty-eight hours, was delivered of a male child weighing 9¼ pounds, with the umbilical cord around the neck, and under the right axilla.

In another case, the woman aged twenty-four (who had had a still-born child a year and a half previously), after nine hours labour, was confined with a male weighing 9½ pounds. The records of the case thus explained the death of her child. "The head after successive pains passed through the labia; but the body was retained through second pains from the great breadth of the shoulders, the passage of which was assisted by the hand. The left hand laid under the chin, with an arm on the thorax—the funis having a bend and lying under it—thus making a great resistance to the circulation."

The case of *arrested development* occurred in a twin. After the birth of a healthy male child weighing more than 11 pounds, "a small opaque substance came away which proved to be a fœtus enclosed within its own proper membranes, which were extremely delicate. The length five inches. The bones of the head were distinctly ossified. Both scapulæ were firm and hard; the left having the bones of the arm and fingers; the right having the humerus only. There were no lower extremities, the pelvis was imperfect. The vertebræ of the spine was distinct, as also the ribs. The whole being a mass of adipocire."

19. *Lacerated Perineum.*—I find but four cases of *lacerated perineum* spoken of, and these were all in the first labour.

In one case, the head was delayed a long time by the resistance of the external parts; the pains in the meanwhile were vigorous, and although the perineum was firmly supported, it suffered a slight laceration when the head finally passed. The records read, "it may be well to add that the patient was dwarfish, and the child rather large." The child, a female, weighed 8½ pounds.

In a second case, where the forceps were applied, there was a slight degree of laceration, although the perineum was firmly supported.

In a third case, the laceration extended two-thirds of the space between the vagina and anus. It was probably torn by the passage of the shoulder, which immediately followed the head, while the perineum was unsupported in consequence of the accoucheur's attention being directed to the condition of the umbilical cord which was protruded by the side of the head.

The fourth case of laceration occurred in a patient whose perineum was left unsupported to test the utility or inutility of such a course.

20. *Diseases.*—In the 451 cases of confinement, six cases of peritonitis occurred; three of convulsions; two of diarrhœa; two of utero-hemorrhage; one of phlegmasia dolens; one of ascites; one of neuralgia; one of typhus fever.

Neither of the cases of *convulsions* occurred during the period of my attendance, and, as I should injure the reports by an abstract, they are copied entire from the hospital records. All the cases of *peritonitis* terminated favourably, as well as those of *hemorrhage;* that of *phlegmasia dolens;* that of *neuralgia;* and one of the cases of *diarrhœa.* While the case of *ascites,* one of the cases of *diarrhœa,* and the case of *ship fever,* were fatal.

The case of *dropsy* occurred in a woman twenty-eight years of age, who entered the hospital pregnant with her first child. Her lower extremities were anasarcous throughout their entire extent. A fortnight after her entrance, after a labour of twelve hours, she was delivered of a child weighing 6¼ pounds. On the next day was comfortable, but *œdema of the face* noticed. On the second day after her confinement, complained of general distress, and particularly of pain in left hypochondrium; was unable to lie except on right side, and with shoulders raised. Occasionally vomited a small quantity of blood. Respiration was somewhat laboured on percussion; right back was dull. Respiration coarse, especially at the upper two-thirds. Left back presented nothing abnormal. Abdomen somewhat tense; fluctuation distinct. On the next, the third day after delivery, sat up in bed, exceedingly pale. Occasionally vomited blood, but expressing herself as much more comfortable. Died at noon. Autopsy not allowed.

The patient who died with *diarrhœa* was twenty-seven years of age, and this was her first pregnancy. She had suffered from diarrhœa for many weeks in the early part of her pregnancy, and in a greater or less degree during the whole period of it, frequently having copious bloody dejections. Was delivered, July 29th, of a child weighing eight pounds. Two days after delivery, diarrhœa reappeared, and she died on the 10th of August. The autopsy exhibited, at the lower part of the large intestines, within two feet of the anus, two groups of ulcers embracing the whole circumference of the intestines. The lower cluster, containing several large ulcers, was situated about four inches below the upper. One ulcer in this cluster was 1½ inches in length by one inch in breadth; there were several other ulcers in both groups an inch in diameter. These ulcers were rough, ragged, dark, and foul; irregular in

form, having edges somewhat thickened, deep, extending in some places through the muscular coat, and without granulations. The muscular and nervous coats of the rectum seemed to be much thickened, and the volume of the intestines greatly increased.

The patient who died of *typhus fever* entered the hospital November 22d, just after her arrival from Ireland. She was confined the same day, and was comfortable until the fever showed itself. On the 29th of November, she was sent to the City Hospital at South Boston, and there died.

The case of *neuralgia* was very severe and protracted, although at last relieved.

Julia Scannel, aged 28, in her fifth pregnancy, entered hospital June 29th, 1844. On the 23d of August, after a tedious labour of 35½ hours, owing to the head being impacted in the brim of the pelvis, she was delivered by the forceps of a living male child weighing 9¾ pounds.

25*th*. Complained of considerable soreness in abdomen, which is much increased by pressure; pulse 70. Fomentations of poppy-heads.

26*th*. Much more comfortable.

28*th*. Complains of pains in both lower extremities, and also in right shoulder. Spts. of camphor to be applied to limbs. Pulv. ipecac. et opii gr. viii.

Sept. 1*st*. For the last two days, pain has been confined to the right lower extremity; upon the instep, the sole of the foot, and slightly, comparatively, operating in the calf of the leg. No swelling nor heat of the limb at any part. Rub ʒj of veratrine ointment, ʒj to the ℥j of lard, upon the lower portion of spine, and also upon the instep.

5*th*. Relieved slightly upon the application of the veratrine; pain very severe at night, keeping herself and the other patients in the room with her.

From this period, she complained constantly of more or less pain in this limb, greatly aggravated at night—relieved only temporarily by hyoscyamus and conium internally, opiate enemata, and aconite, veratrine, antimony, croton oil, &c., externally applied.

Causing great inconvenience to the inmates of the hospital by her continual complaints, and the nature of her disease being such as would probably cause it to continue for a considerable length of time, and as she could receive the same attentions elsewhere, the attending physician advised her removal; and she left, Sept. 14th, for the Massachusetts General Hospital, where she remained until the following November, when she was dismissed, relieved.

21. *Convulsions.*—I. Ruth Pinkham, æt. 30, seamstress, entered Jan. 14th, 1833. Has had two children. A fortnight previous to the birth of her first child, was attacked with convulsions; child still-born. Second labour natural. Lost a sister by convulsions. Is subject to headache—now face and limbs much œdematous. Catamenia about May 7th.

Jan. 31*st*. This morning, complains of headache; mind much agitated last evening; venesection ℥viii; at evening, head not being relieved, sulphate of magnesia in infusion of senna. Medicine acted powerfully in evening and night.

Feb. 1*st*. At half past 7 A. M., in bed, was attacked with convulsions. Was bled immediately ℥xxii, and had cold applications to head. Became sensible in about fifteen minutes, but not conscious of what had happened.

Was very faint and very thirsty, and complained of a strange feeling in her head. At 9 A. M., again convulsed; was bled ℥xviii. Sinapisms were applied to feet. On examination, os uteri found soft, not dilated. At 10¼ A. M., again convulsed. Had infusion of valerian ℥ss to Oj of water. Assafetida grs. xxv in enema. Bladder of ice to head. In interval of fits, mind is rational. At 11½ A. M., convulsions recurred; again at 1¾ P. M.; fit more violent; venesection ℥xii. Before recovery from this fit, again attacked at 2½ P. M; venesection ℥vi. This fit the most severe, and followed by complete syncope. A fall of water directed upon head for fifteen minutes, and afterwards cold applications as before. Patient now became quiet—insensible, or with difficulty roused. At 3 P. M., os uteri somewhat dilated; pain slight. At 4 P. M., had in infusion ergot ℥j; in ten minutes, ℥ss, repeated in twenty minutes, and again in twenty more. Pains came on; labour natural, easy; completed at 9 P. M. Patient rational and perfectly sensible during the last stages; placenta came away ten minutes after child; uterus contracted well; child still-born; male; weight seven and a half pounds; length nineteen inches; middle point one and a half inch above umbilicus. Patient continued tranquil about an hour; expressed great joy at being through her labour; was removed to another bed, and again attacked with convulsions. At 11½ P. M., fit recurred; the two last fits not so violent as the two preceding, but patient much exhausted; cold and sinapisms renewed; a blister six by four inches applied to back of neck; assafetida grs. v given in pill, to be repeated every two hours to grs. xx; calomel grs. v now in pill, and to be repeated in two and four hours.

2*d*, 9 A. M. Has passed night in a state of drowsiness; blister well drawn; pulse 120, intermittent (this noticed previous to convulsions); is disposed to sleep; assafetida grs. v. 9 P. M.—Heavy sleep during day; when roused, answers questions; medicine has acted on bowels. At 5 P. M., skin being very hot, had ipecac. gr. j. At 5½, nit. potass. gr. v, to be repeated every four hours to gr. xxv, unless it acted upon the bowels; has taken gruel; now to have an enema of starch and ol. ric. āā ℥j.

3*d*. Slept during night; three dejections; says she feels very comfortable; pulse 100; tongue bitten during convulsions; mouth affected by calomel.

9 P. M. Has been awake the greater part of day; mind clear; not conscious that she has had convulsions.

4*th*. Night good; pulse 100; sits up in bed with ease; wishes tea and cracker.

5*th*. Doing well; more strength; cheerful; chamomile tea for mouth. Ol. ric. ℥ss.

6*th*. Three dejections; has milk; cannot read, letters appearing confused.

7*th*. Last evening had pain in abdomen, with swelling and tenderness. Fomentations of chamomile flowers applied with relief.

8*th*. Last night had ext. hyoscy. gr. ij; slept well; one dejection.

9*th*. Gains strength daily; mouth better; has at times headache, pain passing from over eyes through head backwards.

25*th*. Has been daily improving; eyesight better, not perfectly restored; has palpitation on sudden exercise; pulse continues to intermit.

March 4*th*. Discharged as a wet-nurse.

II. Elizabeth Knight, æt. 33, entered Feb. 19th, 1844. Health good; first pregnancy; last menstruation June 10th; period of quickening, Oct. 24th.

Feb. 22*d*. Was called to prescribe for her on account of vomiting. Lying on bed in good spirits (temperament lively). States that, on Sunday evening, February 11th, had eaten very abundantly of mince pies and other gross food.

Vomiting has continued from that time to the present. Tongue somewhat furred; pain in bowels; no febrile affection; has already had ol. ric. ℥j, and an enema of soap and oil.

23*d*. Labour commenced 7 A. M.; child born 12½ M., Feb. 24th; male; weight seven and a quarter pounds. During and immediately after labour, there was considerable hemorrhage; placenta removed at once, and without difficulty. The hemorrhage was considerable, causing faintness, which continued for twenty-four hours; pulse frequent and feeble.

26*th*. Yesterday afternoon (according to report of nurse), felt numbness in right leg, and somewhat in right arm. During the night, was frequently awakened from sleep by a spasmodic starting of the head; the same sensations continuing in the leg and arm; now, is able to move both arms, but somewhat stiffly; fingers move rigidly; while in bed can draw up both lower limbs with ease (according to report of nurse, both the right leg and right arm were paralyzed during the night); pulse feeble; bowels free. Cold applications to head; blister to back of neck.

27*th*. Moves right arm and right leg; paralysis of left leg and left arm; sensibility to touch natural; at times, the head has a jerking motion, as if the patient were affected with violent chills; mind entirely clear; no paralysis of face; no pain in head or elsewhere; yesterday endeavoured to walk from the bed to the fire, but would have fallen without assistance; in the night, some delirium; now, pulse 120, feeble; skin cool; bowels free. Blister to be continued on neck.

28*th*. 9 A. M. Delirious in night; no sleep. Now has pain on top of head; paralysis of left side of face; the tongue, when protruded, forms a curve, the apex pointing to the left; pulse 120; mind clear at this moment, but she is inclined to talk a great deal, and at times incoherently; utterance somewhat indistinct. Pulv. ipecac. gr. v every fourth hour, unless vomiting.

12 M. Has had involuntary discharges of fæces and urine. Has taken three powders of ipecac. After the third, vomited, chiefly some gruel. Skin moist. Pulse 120; softer, more full. Continue ipecac. unless free vomiting.

4 P. M. Has continued the ipecac.; no more vomiting. Was quiet until 3 P. M. Since then, delirious; tries to get out of bed. Frequently screaming. Tinct. opii gr. xxx. Head turned towards *right* side. Mind perfectly clear. Pulse 150; feeble. No dejection.

8 P. M. Frequent convulsions, lasting for space of five to ten minutes; affecting the right extremities in some degree, but the left extremities and trunk violently, and attended with severe pain. Asks to be "held tight," and have pressure made upon the back. No nausea; much thirst. Pulse 160; tinct. valerian and hops, āā ℥ss, at 9 o'clock and every fourth hour.

29*th*. 9 A. M. During night, the convulsions continued, occurring every hour or two, and lasting ten to fifteen minutes. Slept during the intervals of the convulsions. Now, pulse 150. Somewhat less feeble; convulsions frequent. Complains that the spasms cause pain in the eyes. Head turned to the *left* side. Intellect clear. Continue medicine p. r. n.

1 P. M. Cheeks flushed. Pulse somewhat more full. Thirst as before. Omit tinct. valerian and hops. Give a Rochelle powder once in three or four hours. Lemonade.

8 P. M. Convulsions almost incessant. Mind clear, both during their continuance and in the intervals. Pulse 150, feeble. Pulv. ipecac. et opii grs. x at night.

March 1*st*. First part of the night comfortable. At about 12, was faint. Respiration heaving; sighing. Extremities cold. Since 12 o'clock, convul-

sions less frequent. No dejection. Urine free. Now complains of pain in muscles of neck (right side) which are strongly contracted. Mind clear. Skin cool. Face pale; livid. Pulse 130. Infus. sen. comp. ℥iii. 12 M. Skin moist and warm. Pulse 125; of a better character. Says she "feels better." Paralyzed extremities painful on pressure; even slight touch. Motion of the arm causes pain in the shoulder joint.

8 P. M. Mind clear, but considerably excited. Restless; complains of pain in right wrist, "small of back," and through hips. Thirst intense. Two dejections in the afternoon. Tongue moist. Pulse 140. Pulv. ipecac. and opii gr. viii at night. Infus. valer. et humuli p. r. n.

2*d*. Slept about an hour after the opiate. Then had a convulsion; and another at 6 this A. M., which lasted two hours. The convulsions affect, at present, chiefly the muscles of the face, throat, and chest, greatly impeding respiration and deglutition. Says she "feels better." Mind at times not clear. Memory good; perfect; but is more frequently delirious. Motions of right arm stiff. Tongue protruded with more firmness. Pulse 100; tolerably firm. Urine involuntary. Carb. ammon. gr. ii every third hour.

6 P. M. Convulsions of muscles of chest and neck nearly all day; none of upper or lower extremities. Coldness from feet to middle of trunk. No loss of consciousness.

3*d*. No sleep in night. Convulsions almost incessant, chiefly of neck and chest. Less thirst; one dejection in the night. Now skin warm. Face occasionally flushed. Pulse 120; sufficiently full. Omit carb. ammon. Pulv. ipecac. gr. iii every fourth hour; omit, if vomiting. 5 P. M. Vomited after the powder; convulsions occur every ten or fifteen minutes; limited almost entirely to the left side of throat and face; muscles of the chest very slightly affected. Articulation more difficult; skin quite warm; pain in the head; pulse 130. Pill. assafœt.

4*th*. Convulsions all the night; no sleep; pupils dilated. Extremities at times cold. Asks for wine; may take it. Omit the pill on account of the difficulty of swallowing.

6 P. M. Retains consciousness; has no vision; pain in the head; bloody mucus in dejections. Nurse reports a discoloration about sacrum. Mist. assafœt.

5*th*. 7 A. M. Very little sleep at night; convulsions almost constant, so much so as to prevent swallowing or articulating. Pulse 100; not very feeble. Enema of mist. assafœt.

6 P. M. During day, the convulsions have continued; mouth opened with difficulty; wine and liquids introduced by prying it open with a spoon. At times delirious, but for most part mind clear. Bowels moved by the enema. This evening, beef-tea and wine, and, if restless at night, tinct. opii gtt. xxx.

6*th*. No sleep; convulsions almost incessant; respiration during the paroxysms less difficult; deglutition impossible.

7*th*. As before.

8 P. M. Morphiæ sulph. gr. one-quarter at night.

8*th*. Muscles of the face drawn to the *left* (this may not have been recorded before). At first, they were drawn to the *right*. After the morphia, slept; convulsions recurring as before.

4 P. M. Has been very drowsy all day; roused only to take nourishment. Enema of soap and oil.

9*th*. In the night, very restless, but the drowsiness continued. Had only one dose of morphine in the night. Bowels moved by enema. Not able to move the head (this has been the case for three or four days); takes less

notice. Until to-day, has asked eagerly for her drinks, &c.; now drowsy, comatose. Skin having a livid cast, but warm; pulse 160; feeble.

6 P. M. Pulse 200; respiration almost entirely abdominal. Eyes for most part directed steadily to the right, but are occasionally turned to the left. Has had no voluntary motion of head for a week past; it lies just as it is placed; swallows with great difficulty. At night, morphiæ gr. ¼d, if restless.

10*th*. Same, excepting less convulsion.

11*th*. During night, some sleep, soon after opiate; no convulsions; some pain in abdomen and side; now pulse 136; mind perfectly clear; articulation more distinct. Asks for a little rye pudding, and for brandy and water; may have it.

6 P. M. No convulsions to-day; much thirst. No sleep until within the last fifteen minutes.

12*th*. Has had some sleep, immediately after an opiate; no convulsions. Says she "feels sick," *i. e.* sensation of great weakness; mind perfectly clear. Pulse 136; feeble; articulation more distinct. While speaking, the mouth is drawn towards the right side; complains of pain in left iliac region. No dejection since 10th; sinapism; has had three enemas administered since morning. If no dejection in an hour, infus. sen. comp. ℥iv. Has appetite; asks for bread, brandy and water occasionally p. r. n.

6 P. M. At noon, nausea and vomiting; vomiting has continued; at first, the fluid vomited was green, afterwards dark coloured; complains of pain in left side; abdomen tender on pressure; no dejection. Pulse 148; feeble; respiration irregular, *i. e.* abrupt; short expiration; fomentations to abdomen.

13*th*. No vomiting since yesterday at 6 P. M.; is more inclined to delirium. Face flushed; skin at this moment warm; lower extremities have been cold during the night; mind clear, but speaks with much less animation; eyes shut for most part; wants to be fanned; abdomen less tender; pain in left side.

14*th*. Died at 7 this A. M. Autopsy not allowed.

III. Elizabeth Sumner, æt. 32; entered January 22d, 1847. Health for past year not good; has had affection of chest, probably chronic bronchitis; second gestation; the first time an abortion.

Jan. 25*th*. 11 P. M. Labour commenced.

26*th*. 11½ A. M. Child born; male. Weight 6½ pounds.

29*th*. Doing well, with exception of cough, which is very troublesome; complains of soreness in abdomen on coughing; no tenderness on pressure. Pulse 100. At night, pil. scillæ, to be followed by ℥j of ol. ric. in morning.

30*th*. Two dejections; pain in abdomen continues; increased by motion; tender on pressure in right iliac fossa; skin hot; pulse 112, full; bran poultice to abdomen.

31*st*. Pain and soreness less; skin moist, less hot; pulse 88.

Feb. 2*d*. Restless and excited last night; insisted on getting out of bed; now rational; complains of occasional darting pain in right iliac region. Emplas. cantharid.

5*th*. Nights very uneasy; delirious at times. Opii gr. iii at bed-time.

6*th*. Had the opiate and fluid extract of valerian, without sleep; now, pulse 96; countenance flushed; talks incoherently; every four hours take ipecac. gr. iv until specific effect.

7 P. M. Has taken the ipecac. without vomiting or purging; somewhat more quiet; pulse 96, soft; countenance not flushed; yesterday there was considerable spasmodic action of limbs and body; motion of arm rigid; to-day it is less; continue ipecac.

7*th.* 9 A. M. No sleep in night; at times, violent delirium; now, skin moist; pulse 96; countenance flushed; spasmodic action of limbs; tongue coated; makes no complaint.

2 P. M. Has had a decided convulsion, lasting fifteen minutes; now, sweating; tongue moist; less coated; no dejection; no vomiting.

8 P. M. Countenance more natural; no more convulsions; pulse 80; mind more clear; says she feels better; asks for gruel.

8*th.* 8 A. M. Restless night; two dejections; now expression maniacal; constant muttering; difficultly comprehends; skin moist, hot; pulse 112; has taken cocoa and gruel, takes no notice of an infant brought to her, (her own having been sent away to be nursed;) limbs in almost constant motion.

8 P. M. Pulse 130, as before; take at night pill of camphor grs. ij, and morphine gr. ¼, p. r. n. Frequent convulsions; countenance pale and haggard; unable to articulate, although at times appears to comprehend questions.

9*th.* Difficult to induce her to swallow pills, but she took one yesterday forenoon. At times, violent delirium, but rather less than yesterday. Had yesterday two involuntary dejections. Now, pulse 88; eyes injected; skin warm; tongue moist, coated; countenance sunken; delirious; continue ipecac. to-day. At night, pills of camphor and opium.

10*th.* Very little sleep in night; refused to swallow pill; but on the whole night somewhat more quiet than the last. During the forenoon, took ipecac., after which vomited; one small dejection. Now, occasionally rational; able to articulate; asks for gruel, takes it with relish; pays but little attention to what is about her; talks incoherently. Frequently sobbing. On the other hand, her countenance is more natural; temperature of skin more natural; pulse 80; a slight secretion of milk; and the return of lochia, which had nearly ceased. Pill at night, if restless.

12*th.* Had one pill in night; restless, but less so than the previous night; now, dozing; skin natural; pulse 80; countenance uneasy; not readily aroused; takes nourishment with appetite.

23*d.* Has been gradually but steadily improving; sits up nearly all day; walks about chamber.

28*th.* Discharged convalescent.

Although only the first of these cases may be considered an instance of true puerperal convulsions, yet, as the others were cases of convulsions, occurring during an unnaturally excited condition of the nervous system following parturition, I have not hesitated to introduce them.

22. *Child.*—With respect to the children, I find but little worthy of notice.

One case of *cephalæmatoma* occurred. The mother, aged 29 years, her fifth pregnancy. She was ten hours and a half in labour, and her child, a male, weighed eight pounds. The tumour was upon the right parietal bone. The mother left the hospital a fortnight after her confinement, and nothing is known of her child since.

In one case, death followed *hemorrhage from the cord.* The child, a female, weighing seven pounds and a half, was born after a labour of thirty-six hours. "During the afternoon, blood began to ooze from the extremity of the cord. It was tied again and again without effect."

On the next morning, "the right eye was livid and œdematous. Trunk and limbs œdematous, but not discoloured; also various parts, chiefly on limbs. The cellular tissue is almost of a stony hardness. The colour of the skin not altered."

On the second day, "the cord has pulsated up to this time. Blood has continued to ooze from the *extremity* until to-day; it now flows from the root; the cord beginning to be detached. On the third day, the child died."

The only notices of *distortions* I can find are two instances in which "the right foot was turned inwards varus."

To show that it is not an uncommon circumstance for a woman to be mistaken as to her pregnancy, I would state that, during the four years I was connected with this institution, three women of excellent character entered to be confined, neither of whom was pregnant. One of them, a very industrious Irishwoman, from the fact of her menses being suppressed, and her abdomen having become enlarged, and from the belief that she distinguished "quickening," made her usual calculations, expended all the means she could spare from her hard earnings to provide clothing for her expected offspring, and with her "permit" came to the hospital. I was called to attend her in her accouchement. She was in bed, expecting momentarily to be confined. Her pains were *false pains*—she was not pregnant.

Upon another occasion, I was called at night to attend two women who were expecting to be sick. One was in labour; the other, an American, had entered the house a few hours previously, and thought she should probably be confined during the night. While the labour of the one was rapidly advancing, observing that the other was silent, I jocosely asked her what reasons she had for supposing she should be confined. She answered, "Because her doctor had told her she should be." I asked her if that were her only reason. She said it was a principal one; that her catamenia had been irregular, her abdomen had enlarged; that she had suffered much pain in the region of the uterus; and that her physician, satisfied of her pregnancy, had fixed upon the day of her delivery. I examined her, and found the uterus empty. She was suffering from a congestion of its neck, and was dismissed, to enter the Massachusetts General Hospital for treatment.

Art. VI.—*Description of a Vectis for the Removal of the Globular Pessary.*

By Henry Bond, M. D.

A few years ago, I was called to a lady aged nearly seventy years, who had been affected for a considerable time with complete prolapsus uteri; and of course the sphincter vaginæ had become much relaxed and dilated. She had employed a perineal bandage, and likewise a supporter, which acted only as

imperfect palliatives. The more special occasion of my being called at the time was a disagreeable vaginal discharge, and pain and tenderness in the uterus. Upon examination, I found an ulcer on one side of the cervix and os uteri, and there was tenderness in the whole organ, as far as it could be examined.

Before using a pessary, or any other efficient means, to retain the uterus in its proper position, it was necessary to use remedies to remove the morbid condition of the parts, which, after a little time, was accomplished. After this, I first tried a disk pessary. But this would almost immediately become displaced; and, although of such a size as to require some force to introduce it, in stooping, straining, or any ordinary effort, such as getting into a high bed, it would sometimes be thrust out. I next employed a silver-gilt globular pessary. This also would escape, unless retained by a bandage and compress, which therefore were employed until the sphincter should have time to recover its tone. After a very few weeks, it became unnecessary to use the bandage and compress, and the pessary gave her great relief.

After the lapse of more than a year, during which time the pessary had not been removed, she became affected with a vaginal discharge, and disagreeable sensations, if not absolute pain, in the uterine region. I recommended the removal of the pessary, in order to ascertain the condition of the parts. This the patient chose to have postponed. At the end of a year and a half or more, the symptoms not having abated, but rather grown worse, she consented to its removal. I found the pessary situated so high that I could scarcely reach it with my finger, and there was a firm stricture of the vagina below it. The difficulty of reaching it was partly owing to the very full habit and the corpulency of the patient. If such a case had ever happened, or were possible, I should have said that here the pessary had got into the uterus. The form of the patient and the position of the pessary rendered it impossible to act on it in the rectum; and, moreover, if it could have been reached by this avenue, it is very improbable that it could have been forced through the stricture by this process.

I then went to surgical instrument-makers to ascertain if they had anything that would serve my purpose in such an emergency. I found none that would meet the indication, except by crushing or destroying the pessary. I then directed a vectis to be made* such as is here delineated.

I applied it without difficulty, and found that I had a very satisfactory hold or control of the pessary; but the stricture was so firm that it was difficult

* Manufactured by Messrs. John Rorer and Sons.

to accomplish the delivery. With one hand I used traction, so as to make the pessary press upon and distend the stricture (which resembled exactly the rigid os uteri, when it is partly dilated in parturition), and then used a finger of the other hand to dilate the stricture. After little delay, I succeeded in bringing it through. After omitting the use of the pessary for a little time, the prolapsus returned, the instrument was introduced again, and the patient still wears it. At present, either the stricture has disappeared, or the pessary lies below it.

The wood-cut probably sufficiently explains itself The clam is accurately modelled to a globular pessary of the size of a billiard ball; but it will be equally efficient, when pessaries are of other dimensions. Perhaps it may be a fault in the specimen from which the drawing was made, that the clam constitutes too large a segment of a circle, thereby lessening, in some cases, the facility of its application. It might be made to constitute a less portion of a circle, and yet be entirely efficient. When the clam is applied, a finger, acting as an antagonist, may be applied to the pessary to prevent it slipping off.

Should such a case as the foregoing occur to any reader of this page, I would commend to him a trial of this simple little instrument. It may obviate the necessity of a bistoury to relieve the stricture; and, in other cases, it may render unnecessary that process, alike disgusting to the patient and the operator, of acting on the pessary through the rectum.

April 20, 1850.

[We have employed the vectis of Dr. Bond in one case, and with the most satisfactory result. About a year ago, we were sent for by a lady who was suffering great uneasiness from a globular, wooden pessary, which had been introduced a few days previously by a surgeon in Boston. Finding every effort to remove the pessary by the usual manœuvres ineffectual, we obtained one of Dr. Bond's vectis, by the aid of which we extracted the pessary without any difficulty.—Editor.]

Art. VII.—*Cyanosis, produced by Transposition of the Orifices of the Aorta and Pulmonary Artery.* Reported by Carter P. Johnson, M.D., Prof. Anat. and Physiol. Med. Dep. Hampden Sidney College, Richmond, Va. (With two figures.)

On the 17th of May, I was requested by Dr. G. G. Miner, of this city, to aid him in making a post-mortem examination of a male mulatto infant, aged precisely two months, which had suffered since its birth from some disorder of the circulation and symptoms of cyanosis, and which had died the previous evening. I learned from the Doctor that the cyanosis was *permanent*, being

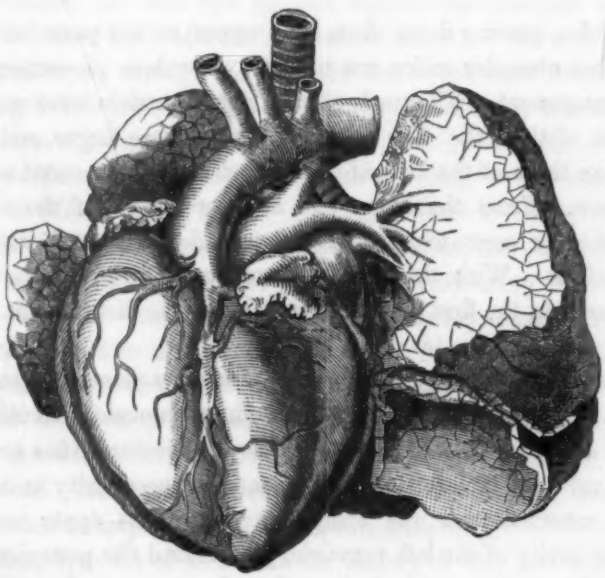
always present to a greater or less extent, though considerably increased by any unusual exertion on the part of the child.

On proceeding to the autopsy, the body presented externally nothing worthy of special notice. Though rather under size, it appeared to have been tolerably well nourished, and to differ but little in plumpness and rotundity from the bodies of other children of the same age.

Upon opening the thorax, the cavity of each pleura was found to contain from two to three ounces of serum; the surfaces of the pleura were healthy. The lungs were but imperfectly inflated, though sufficiently so to float upon water. Instead of presenting the very white colour of the child, they presented, except in a few spots where a larger amount of air had obtained access, the dark purple colour of a highly congested or apoplectic lung.

The pericardium was healthy, containing no more fluid than usual. The heart presented the usual form, size, and direction; but, upon examining the upper portion from which the aorta and pulmonary artery emerge, an unusual relation of their vessels was observed. Instead of finding the pulmonary artery lying in front of and concealing the orifice to the aorta, the two vessels lay side by side from their origin to the division of the pulmonary artery, the aorta lying on the *right* and somewhat in front, the pulmonary artery on the *left*, a little behind. (See Figure 1.)

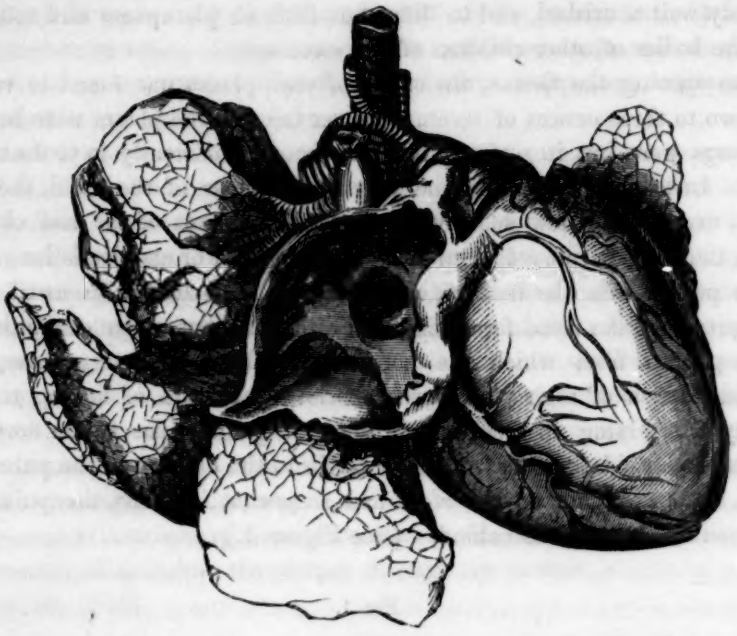
Fig. 1.



On examining the interior of the cavities, beginning with the right auricle, the vena cavæ and coronariæ were found empty as usual. The *foramen ovale* was *patulous* by an orifice oval in shape, the vertical diameter of which measured about four and a half lines, the transverse diameter about two and

a half lines (see Fig. 2). The *musculi pectinati* were developed to a much greater extent than usual, large fleshy pillars, resembling the *columnæ carneæ*

Fig. 2.



of the ventricles, passing down from the upper to the posterior wall. The right auriculo-ventricular orifice was natural, the valves presenting the usual tricuspid arrangement. The walls of the right ventricle were very nearly as thick as those of the left. The columnæ carneæ were larger and more fully developed than those of the left side, though the latter presented a much more red appearance. From the upper and anterior portion of the cavity of the *right* ventricle the *aorta* took its origin, provided, as usual, with its three semilunar valves. With the exception of its orifice, and the consequent change produced in the first portion of its course, the distribution of the aorta was normal.

The left auricle received, as usual, the pulmonary veins, and in its interior presented on the septum the opening of the foramen ovale. In other respects, its anatomy was normal. The left auriculo-ventricular orifice presented the usual mitral valve. The left ventricle presented no peculiarity in its structure; the septum ventriculorum was complete. From the upper and posterior portion of the cavity of the left ventricle, just behind the posterior fold of the valve, the *pulmonary artery* took its origin by a *free* and *patulous* orifice. From its origin it proceeded upwards and to the right for about an inch, when it divided into three branches, the right and left having the usual course and distribution of the pulmonary arteries, the middle branch (the previous ductus arteriosus) piercing the concavity of the arch of the aorta. The pulmonary branches were pervious, and not materially smaller than usual.

Remarks.—From such an arrangement of the heart and blood-vessels, it is easy to explain the symptoms of imperfect arterialization of the blood which this case presented. The right ventricle received, as usual, only venous blood, and propelled this blood unchanged into the aorta, and thence through the whole systemic circulation. But, had the various organs of the body received their supply of blood only through this source, they would have ceased to perform their functions after a few revolutions of the current of the circulation, and life would have become extinct within a few minutes after birth. A source of arterialized blood, however, was afforded through the *ductus arteriosus*, which received the blood from the left ventricle through the pulmonary artery. As in the fœtus, therefore, the venous organs of the body must have been supplied with mixed arterial and venous blood.

The pulmonary artery communicating with the left ventricle which received the blood from the left auricle, which in its turn received arterial blood from the pulmonary veins, how was the venous blood of the *right* side carried into the lungs, and how was hæmatosis accomplished at all? This could only have been effected by the passage of a portion of the venous blood in the right auricle, through the open foramen ovale, into the left auricle, from whence, passing into the left ventricle, it would be propelled by the latter, in common with the arterial blood, into the pulmonary artery; a portion of this mixed blood finding its way through the divisions of the pulmonary artery into the lungs, the other portion passing through the ductus arteriosus into the aorta. Would not this fact militate against the doctrine advocated of late years, that, after birth and the full establishment of the true circulation, no current would pass through the foramen ovale even were it open?

In referring to the various works on anatomy, within my reach at present, among them Quain's magnificent work on the Arteries, and the article on the Heart, *Cyclop. Anat. and Physiol.*, I find no reference to any case similar to this, except in Meckel, who, in vol. ii. p. 220, refers to transposition of the great vessel as one of the anomalies that may occur, and, in support of his assertion, refers in a note to one case reported by Tiedemann in the *Zeitschrift für Physiologie.* Mr. Gintrac, in his "*Observations et Recherches sur le Cyanose,*" has collected four similar cases, and Dr. Moreton Stillé, in his able article on Cyanosis (*American Journal of the Medical Sciences*, July, 1844), apparently on the authenticity of Gintrac, lays down transposition of the aorta and pulmonary artery as one of the "lesions, alterations, or defects" causing cyanosis. Not having access to Gintrac's work, I am unable to say whether his cases correspond in other respects with this.

In conclusion, I would remark that the history of this case would seem to confirm Dr. Stillé's general conclusion that "no *one* lesion is entitled to be considered as the anatomical character of cyanosis; but that it depends simply upon any cause which, acting at the centre of the circulation, will produce a stasis of venous blood in the capillary system." In this case, that stasis was produced, not by any obstruction or contraction of the pulmonary

arteries, but by the difficulty presented to the accomplishment of hæmatosis in consequence of the small amount of venous blood which could find its way to the lungs. The right auriculo-ventricular orifice, and the opening of the aorta into the right ventricle, being both free, and opening in the direct current of the circulation, only a small portion of the blood in the right side of the heart would pass through the comparatively small foramen ovale, and of that only about two-thirds would pass to the lungs; the remaining third passing through the ductus arteriosus into the aorta.

ART. VIII.—*False Encephaloid. Fatty Tumour of the Liver, feigning Encephaloid — Perforation of the Diaphragm — Growth in Cavity of the Chest, and Expectoration therefrom.* By R. S. HOLMES, M. D., Professor of Physiology, St. Louis Medical College.

THE following very interesting case occurred within the last few weeks in the practice of Drs. Chase and Johnson (George) of this city.

S. T., a very healthy man, of temperate habits, a native of Ireland, of a strong, though thin frame of body, inclined to a sanguine temperament, aged thirty-eight years, complained, some six months since (the first time he had ever been sick), of chills or rigors, which he called the "dumb ague." They did not give him much uneasiness, however, and he soon recovered. About six weeks ago, he experienced considerable pain about the lower part of the right lung. This was supposed to be a pleuritic inflammation; and, although no certain diagnosis could be arrived at, he was treated accordingly. The symptoms were not alleviated, however. There was considerable pain; a dry cough, for the first time, without any expectoration; loss of appetite; rapid emaciation of body; frequency of pulse. No disease of the lung by auscultation or percussion could be found, save that, in the right hypochondriac region, for the space of some two or three inches in diameter, a dull, heavy sound was elicited, and no pectoral murmur was heard on auscultation.

During the second week, the patient expectorated, in a severe paroxysm of coughing, a mass of substance about one inch wide, two and a half inches long, and half an inch thick, of the shape of an almond. The smallest end of this was smooth and rounded, as if formed in a mould; the other rough, as though broken from a larger mass. It was of a whitish colour, but had a distinct yellow tint; a thin membrane encysting it apparently, save at the end, where it seemed as if torn from its connections. The mass excited a good deal of curiosity from its striking resemblance, in consistence and appearance, to encephaloid; as also from its size, as it was almost impossible to believe that it could be expelled, as a mass, from the lungs by the trachea.

Under the microscope, a small portion of this tumour, being slightly pressed between two glasses, exhibited the appearance of innumerable globules, many smaller than the lymph cells, and others so large as to occupy nearly the entire field, in a Ross one-eighth inch lens. I have never seen oil globules so beautifully displayed; in fact, I never before saw them, in any secretion of the body, exhibiting such tenuity or oleic properties. The form being spherical in all instances, pressure altered this form in some of the larger globules; but the spherical form was still most apparent, as if the disk had been more flattened without losing its original shape. The tumour was so delicate that a section sufficiently thin without pressure, to be viewed by transmitted light, could not be obtained. No vessels could be observed in it. It was perfectly homogeneous through its whole texture, being made up chiefly of these globules, small amorphous masses, apparently of sebaceous matter; shreds of hyalitic membrane, scattered here and there through the field, and a few fibrinous shreds, apparently, were seen.

Treated with acetic acid, the globules were almost wholly dispersed, a few only of the smaller ones remaining here and there after the lapse of half an hour. They seemed to have coalesced or run into each other, forming apparently large, shapeless drops of oil; the amorphous mass was rendered more transparent; and, scattered about the fields, were particles of membrane forming the debris, as it were, of former cells. In twenty-four hours, the mass was reduced to the consistence and appearance of lard; and, when spread thin on the glass or pressed between two glasses, showed large, shapeless, oily-like globules.

With ether, the like coalescing effects took place, though not to anything like the same extent, the whole field being rendered more opaque. A mass placed in ether, and which has now remained in it for three or four weeks, has not discoloured it; nor can I find any of the globules floating in it. The mass is rendered firmer, more opaque, and whiter, and does not exhibit such a tendency to be spread about in globules.

In alcohol, the globules were mostly broken, none of the larger ones being apparent. In the course of a few hours, the alcohol was made quite turbid. A slight film that was floating on the surface, on being placed under the field of the microscope, proved to be made up of many globules of the diameter of the blood-disk.

During the third week, five other masses, one larger than that which has been described, were expectorated from the lung. On examining these, they proved to have precisely the same character as the first. The diagnosis made then was this: A fatty tumour originating in the liver; perforation of the diaphragm; displacement of the lung by the tumour; cavity of considerable size at the base of right lung. It will be seen how far this diagnosis was verified. The patient complained of no pain, only of loss of strength, of appetite, of the annoying cough, with expectoration of bloody mucus and pus, with membranous shreds. In the fourth and fifth week, hectic fever of a serious

grade occurred. The expectoration as before, and of small masses of this matter, was constant. Sometimes, a tablespoonful of broken matter would be thrown up at one time. This state of things continued until the time of his death, in the sixth week.

Autopsy, sixteen hours after death.—On the first exposure of the liver, its appearance was perfectly healthy externally, and an incision being made into it, no sign of disease could be discovered. On turning out its diaphragmatic portion, however, extensive disease was apparent. For an extent of about four by six inches, there was a positive loss of substance to the depth of two to eight lines. The walls of this diseased part were covered with pus, and nearly in its centre was a depression some two inches in breadth by one in length, as if it had been the bed of some morbid growth. The depth of this depression was about an inch. Like the diseased remaining portions, its surface was covered with pus. The pus resembled so much what the tumour *might* have been, had it been softened, that I examined it under the glass and found nothing but the pus cell. A line or two beyond this, going into the substance of the liver, *it* again resumed its characteristic healthy appearance. In fact, all the other parts of it might be taken as a type of the healthy liver. The depressions were all caused by loss of substance, the pus on the diseased portion being evidently secreted *in situ* from that portion. But little pus was seen in the abdominal cavity, probably not a tablespoonful altogether.

The diaphragm was perforated by ulceration, the opening being two and a half inches by one inch in extent; the thickened walls of the diaphragm protruding inwardly, in a very evident matter, from the liver toward the lung.

The cavity occupied by the tumour in the thorax was of great extent. There was a positive loss of probably one-third of the right lung. It resembled precisely the cavity of an abscess. The ragged walls of the lung, dripping with pus, protruded into it. There were two or three ounces of pus within the cavity, and pus and bile were found throughout the lung; otherwise, it was perfectly healthy. A small section that I cut from the upper lobe of the lung was infiltrated with pus and bile. The space occupied by the tumour in the thorax must have been of the extent of six to seven by four or five inches. The left lung was perfectly healthy.

The intestines, stomach, spleen, and heart presented a healthy appearance.

This mass of fatty matter, without the aid of the microscope, would have been pronounced encephaloid, or of a tuberculous character. It was, I think, of the exact kind called by Vogel *false encephaloid.*

"I once observed," says he, "a tumour of this nature in a lung. It was of the size of a walnut, of a reddish-white tint, about as soft as brain, and was declared to be encephaloid by all the physicians present. When examined under the microscope, it was found to be merely a deposition of oil-globules (fat) in the normal tissue of the lung." (*Path. Anat.*, p. 293.)

Facing page 503 of Vogel's work is a cut, No. 10, described in the text as "a tumour, supposed to be encephaloid, from the lung of an officer who had often suffered from gonorrhœa. The lung contained a circumscribed tumour of the size of a walnut, and of a reddish-white colour. It was quite soft, could easily be reduced to a pulp, and resembled cerebral substance. From these physical characters, it was pronounced to be encephaloid of the lung." We are at a loss here to determine whether he makes reference to the same tumour in both instances; the cut that is given could not be distinguished from a drawing I made by the camera lucida of the tumour I have described, or rather of its globules; for the cut in Vogel I suppose merely represents oil globules.

The diagnosis of the tumour originating in the liver (as we suppose from the autopsy it was evident it did) was founded on the tendency of the liver beyond almost any other structure to secrete oil globules.

The tumour, I suppose, had its origin on the diaphragmatic portion of the liver; a distinct growth, independent of the liver, save that it received its impulse and nutriment therefrom. By pressure on the liver, it took on an ulcerative inflammation, with absorption. The like pressure on the diaphragm caused it also to be destroyed in like manner; but when the tumour gained an entrance into the thorax, the pressure that must have heretofore confined it to a considerable degree, being removed, its growth was rapid, with a speedy destruction of the lung; no expectoration of the tumour taking place until it had gained the larger bronchi.

ART. IX.—*Case of Cynanche Parotidæa, with Metastasis to the Testicle, and Cerebral Complication. Convalescence in ten days.* By FRANCIS MINOT, M. D. (Read before the Boston Society for Medical Observation, Jan. 21st, 1850.)

MR. A., a gentleman aged about fifty, tall, thin, with dark complexion, hair and eyes, of strongly marked nervous temperament, habitually dyspeptic and low-spirited, frequently complaining of pain in the head, was more unwell than usual on the 9th of August, 1849, and, on the evening of the 10th, had swelling under the angle of the lower jaw on each side, with pain on motion of the jaw, and in swallowing. He was living at the time a few miles from the city, at a place where an epidemic of mumps was prevalent. The pain was quite severe, but the swelling moderate. He took no remedies, but kept in-doors until the 13th, when he came to town to attend to some important business, although it was raining, and the weather was damp and chilly. He was well wrapped up, and did not fatigue himself.

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ART. IX.—*Case of Cynanche Parotidæa, with Metastasis to the Testicle, and Cerebral Complication. Convalescence in ten days.* By FRANCIS MINOT, M. D. (Read before the Boston Society for Medical Observation, Jan. 21st, 1850.)

MR. A., a gentleman aged about fifty, tall, thin, with dark complexion, hair and eyes, of strongly marked nervous temperament, habitually dyspeptic and low-spirited, frequently complaining of pain in the head, was more unwell than usual on the 9th of August, 1849, and, on the evening of the 10th, had swelling under the angle of the lower jaw on each side, with pain on motion of the jaw, and in swallowing. He was living at the time a few miles from the city, at a place where an epidemic of mumps was prevalent. The pain was quite severe, but the swelling moderate. He took no remedies, but kept in-doors until the 13th, when he came to town to attend to some important business, although it was raining, and the weather was damp and chilly. He was well wrapped up, and did not fatigue himself.

The same evening he called upon me to say that the swelling in the jaws had abated, and that he began to feel occasionally slight pain in the testicles. He was habitually costive, but the bowels had been freely opened by medicine. He was advised to take some mild laxative medicine, to go to bed, and to apply fomentations to the jaws, with support to the testicles.

The next morning (Aug. 14th), the pain in the testicles had diminished, and that in the jaw was increased. He had had an uncomfortable night, and was very irritable and restless, complaining much of pain in the top of his head. The tongue was covered with a thin yellowish coat, and there had been no dejection. He repeated the medicine of the previous evening, but without effect; and towards night the pain in the head had increased considerably, and he had had alternations of chills and heat through the day. He was very restless and irritable, and the skin was very sensitive to the least touch. There was but little pain in the testicles. The pulse was 100, and quite full. There was considerable thirst, and no appetite. He was ordered four ounces of an infusion of senna and manna.

At 10 P. M., he had had no dejection, but passed much wind, which gave him great relief. He refused to take an enema. He had slept most of the time since six o'clock, and said he felt better, and that he had no pain in the testicles, except while standing up. Pulse 84; urine free.

Aug. 15th. He had slept heavily almost all night. At 3 A. M., he got another dose of senna and manna, which operated once. His condition was as follows: Drowsy; answers intelligently, but slowly, and sometimes a little incoherently; face flushed; skin hot and dry; tongue covered with a thin, moist, whitish coat; thirst moderate; bad taste in mouth; pulse 88, full, somewhat hard; urine free; no pain or swelling in angles of jaw; right testicle somewhat swollen, hard, and tender; left testicle natural. He refused to have leeches applied to the head. Thirty drops of Hoffmann's anodyne were ordered every hour and a half.

At 6 P. M., he was more drowsy and stupid; took no interest in what was going on, had some stertor, had slept heavily all day, and had had one free dejection since morning. In other respects, he was the same as at the last visit.

Dr. J. Bigelow was called in consultation. The patient's feet were placed in warm water, sinapisms were applied to the feet and legs, fomentations to the abdomen and scrotum, and an evaporating lotion to the head. Ten grains each of calomel and compound extract of colocynth were administered.

Soon after this, he suddenly began to talk rapidly, and incoherently; became unreasonable, resisting the attentions of his attendants, and frequently expectorating small quantities of frothy saliva.

At 11 P. M., his condition remaining the same, about twelve ounces of blood were taken from the arm, the operation being performed with great difficulty, on account of the opposition of the patient. This was followed by no apparent change in the pulse or general symptoms. In the course of the

night, he had a free dejection, getting up to the water-closet, and returning to bed without assistance.

16*th.* During the night, he had no sleep, but continued talking incessantly. There were no spasms or convulsions. Dr. Bigelow being out of town, Dr. J. Ware saw the patient in consultation. His condition was very much the same. He was talking incessantly and incoherently, frequently expectorating small quantities of frothy saliva; very irritable, answering tolerably well to questions, but wandering again immediately; the pupils were natural, the eyes generally closed; the hands were constantly applied, one to the head, the other to the scrotum, supporting the testicles; the right testicle was enlarged to about double the size of the other, hard and tender; the patient said it was not painful; the left testicle was natural; no pain or swelling in angles of jaw; skin hot, and dry; face flushed; eye dull; tongue and mouth as on the 15th; much thirst; pulse 92, full, not hard. Twenty leeches were applied to the temples, notwithstanding much opposition on the part of the patient; croton oil was applied to the head, and he took a little gruel, and a cup of tea.

In the afternoon, Drs. Bigelow and Ware saw the patient in consultation. A scruple of calomel was given, and leeches were ordered to the scrotum, but the opposition of the patient was such that it was impossible to apply them.

Towards evening, he grew more quiet, and the delirium abated. He sat up a few minutes, and said it gave great relief to his head. Afterwards, he lay quiet, occasionally dropping asleep, without stertor. Towards morning, he slept for an hour quietly. During the night, he rose several times, and went to the water-closet without assistance. His mind wandered occasionally, but he had no active delirium.

17*th.* Drs. Bigelow, Ware, and Walker saw the patient. The general condition was much improved. Pulse 84, soft; skin cool, and less dry; tongue cleaner on edges; he asked for gruel. The pain in the head was better; the mind pretty clear, though weak; he burst into tears on seeing his friends. The testicle was somewhat less swollen, though still very tender. The scrotum was somewhat œdematous. The teeth were slightly tender, and there was a bad taste in the mouth.

During the day, he sat up twice. In the evening, the pulse was 76, and quite soft. The urine was free, but high-coloured and offensive. He was very quiet and rational. The eyes were painful, probably from the effect of the croton oil conveyed to them from the hair by the fingers.

From this time, Mr. A. steadily improved, and by the 20th was convalescent. The pain and swelling in the testicle gradually disappeared. The pain in the head remained for a long time, and for several days he continued so sensitive to noise that whereas before his illness he was slightly deaf, he could now hear the lowest voice with ease.

Although cerebral complication in cases of mumps is spoken of by all

writers as generally fatal, the writer has been able to find but one recorded case in the books. Eberle (*Treatise on the Practice of Medicine*, vol. ii. p. 333) says, "I have known a case of this kind terminate fatally in less than an hour, under a paroxysm of violent convulsions." Perhaps the danger of the affection has been overrated. We may suppose that the sympathetic irritation caused by the metastasis of a specific and limited inflammation would be likely to cease when the latter had come to its natural termination; and, in fact, in this case the delirium ceased on the sixth day after the first appearance of the swelling of the parotid glands, being about the time when those glands would have subsided into their natural state, in the usual course of things. But observations are wanting on this point.

By a majority of writers, metastasis to the testicle in mumps is regarded as a favourable circumstance, as serving to divert the disease from the brain; yet, in this instance, the swelling of the testicle preceded the cerebral symptoms by about thirty-six or forty hours! and Watson (*Lectures on the Principles and Practice of Physic*, vol. i. p. 775) remarks, "Inflammation of the brain or its membranes has sometimes occurred on the disappearance of the *parotid* swelling; but it has much oftener supervened, I believe, upon the retrocession of the inflammation of the *testicle* or *mamma*." But in this case there was no *retrocession;* the testicle continued swollen and tender during the head symptoms, and for some time after.

ART. X.—*Contributions to Practical Medicine.* By JOHN P. METTAUER, M. D., LL. D., Professor of the Principles and Practice of Medicine and Surgery in the Medical Department of Randolph Macon College, Virginia.

I. *Constipation.*—In slight degrees, constipation is hardly to be regarded as a disease; and, with some individuals, it does not seem to impair the health even when of prolonged continuance. Most commonly, however, the health suffers impairment, in greater or less degrees, from its commencement; and it is always an annoying state, more especially with persons of regular habits, who place the proper value upon daily evacuations from the bowels, as an important means of preserving health. With students, or other persons of sedentary habits, it is almost invariably both annoying and health-disordering. Few laborious and indefatigable students escape it. Generally, it calls for correction, as, if long continued, it will often superinduce disease of grave characters. It is by no means uncommon to find constipation induced by want of corporeal exercise, or a neglect to evacuate the bowels at the customary hour, resulting in disordered digestion, and finally in dyspepsia, with its train of real and imaginary ills.

Constipation of the simple form, in its early stage, depends more on the disturbance or change of the habit of evacuating the bowels at a particular period or hour of the day than on a morbid condition of the intestinal canal. In that respect, it resembles disturbance or change of the habit of sleeping at a particular hour or period of the night or day; and such disturbance is not unfrequently caused by unexpected business, or any other occurrence of importance, at the accustomed time of evacuating the bowels, or of sleeping. With students, it is often caused by profound application of the mind in study at such time, which either prevents the dejecting desire, or renders the individual unconscious of it. In some instances, too, it is induced by sheer indolence, or reluctance for the least motion of the body, or on account of bad weather, or the difficulty of procuring a convenient place for privately evacuating the bowels. Many individuals become constipated from the latter cause, upon going to a city. After the habit of daily alvine evacuations is broken up, and constipation follows, the ingesta, from being detained too long in the intestinal cavity, become, in most cases, unduly hardened by the absorption of their thinner parts, or they run into chemical transmutations, distinguished by acid eructations, heartburn, flatulence, colic in many instances, diarrhœa, and, not unusually, with headache and fever.

When diarrhœa occurs, after one or two days' continuance, it often ceases, and is followed by constipation. In this manner, these conditions continue to alternate until the constipation is corrected. Cases often occur, however, in which the most obstinate constipation obtains, without causing the slightest appreciable disturbance of the general health, with the exception, perhaps, of headache, or undue fulness, or flushing of the face; and these are only occasionally met with.

In the present state of our knowledge, it is not ascertained that any particular portion of the intestinal canal is more deeply implicated than the rest in this form of constipation. The whole gastro-intestinal cavity seems equally affected with torpor, and free from the signs of structural disease. Torpor, superinduced by broken habits, in which the peristaltic action suffers first, seems to be the condition upon which constipation chiefly depends in its commencement; but other functions of the cavity are ultimately implicated, and, finally, those of other and even distant organs suffer also in turn.

The *treatment* of constipation, in its early stage, which I have found most successful, is the daily use of a mild cathartic enema, administered a short time after breakfast. If regularly employed at a particular hour, and in sufficient quantity to distend the rectum, and even the sigmoid flexure of the colon, decidedly, it seldom fails to procure an evacuation. If it does not, a second, or even a third or fourth may be employed after intervals of twenty or thirty minutes; taking care always to place the patient on the left side when the enema is administered, and that not less than a pint be well introduced at a time. I have always preferred to employ bulky injections in these cases, and have often caused three and four pints to be thrown up at a time,

with the view of fully distending the rectum and sigmoid flexure of the colon, as well as to soften the indurated feculent mass contained by these organs. This plan should be continued until a habit is formed; after which, the bulk, as well as the irritant strength, of the injection may be very gradually reduced, until, finally, the remedy can be laid aside. In some cases, it will be found necessary, occasionally, to have recourse again to the enema, especially if a disposition is manifested to postpone the defecating period. This may be rendered needless, however, in some degree, by punctually visiting the necessary at the same hour, and, as far as possible, by abstracting the mind from all other subjects for the time being.

The *kind* of food will, in many instances, essentially co-operate with enemata in regulating the bowels. Generally, individuals will find soft, pultaceous nourishment best suited to their situations. The different kinds of mush, soaked bread, &c., will greatly promote a soluble state of the bowels, as well as digestion. Rye mush especially, as well as cracked boiled wheat, decidedly tends to an easy state of defecation, and solubility of the bowels. Individuals disposed to constipation, or labouring under it, should only use animal food sparingly, as its tendency is to increase that state. Nor will it be proper for them to take food oftener than once in five or six hours. By no means will it be proper that inter-meals, termed "snacks," or "luncheons," be indulged in, as they not only increase or perpetuate the constipating tendency, but decidedly impair digestion. The stomach and duodenum should invariably unload themselves of a previous meal before another is taken in. Even a cracker, or any other article of food in the smallest quantity, if taken into the stomach before a regular meal, will impair the appetite more or less for such meal; and food taken in under such circumstances must be imperfectly digested, and its tendency would be to superinduce irregularity of some kind in the gastro-intestinal cavity: if constipation exists, that state would be increased; and if the opposite condition be present, aggravation of it could hardly fail to follow.

As an auxiliary means of correcting constipation, regular exercise will be required daily in the open air. Attentions to dress also are important. The person should always be comfortably clad, and the animal temperature carefully regulated and maintained. The mental exercises must invariably be attended to. If the patient be a student, it is all important that his mind should be allowed relaxation during incipient digestion, and especially at the approach of the period for evacuating the bowels. If possible, he should make that the chief object of his attention for the time being. These observations apply with equal force to artisans, or other persons of sedentary habits. It will seldom be necessary to employ internal remedies in this form of constipation, unless the case is distinguished by unusual obstinacy in refusing to yield to enemata. And generally, when such is the case, the secretions from the liver, as well as from the other organs concerned in the complex exercises of the digestive function, are defective, and the case ceases

to be simple constipation from broken habit: it is then complicated constipation, of which there are several varieties.

Constipation complicated with defective biliary secretion generally supervenes upon simple constipation which has been neglected, or improperly treated. It does, however, in some instances occur as an original affection, induced by a variety of causes. I have often met with it as the consequence of jaundice, catarrh, measles, continued fever, and irregularity, or excesses in the use of food and ardent spirit. It occasionally co-exists with, or follows melancholy, spermatorrhœa, impotence, female sterility from defective menstruation, amenorrhœa, and chlorosis. Early in its progress, the appetite fails or becomes capricious, and digestion is executed with difficulty. Commonly there is gastric or enteritic pain, heartburn, acidity, flatulence, oppression of the stomach after meals, occasionally nausea and vomiting, coming on suddenly after eating; headache, more or less fever of evenings, thirst, a coated tongue, depression of spirits, in some cases bordering on melancholy; and insomnia, or imperfect sleep. The secretions are generally defective, though not always in degrees of equal intensity. As was remarked of the alvine discharges in the simple form, they are in this variety usually solid, and exceedingly dry—their expulsion being often attended with difficulty and pain, and occasionally with laceration of the verge of the anus, and hemorrhage; or, passing into chemical transmutations from long detention in the intestinal cavity, the feculent matter becomes semifluid, and is discharged during the diarrhœal state it generally superinduces; and these opposite conditions of the feculent contents, as well as of the bowels, usually continue to alternate after irregular intervals, until the morbid state upon which they depend is corrected, or graver results follow. The tendency of this form of constipation is to augment in violence, and to superinduce structural disease of the organs chiefly implicated in the most prominent functional disturbances from the commencement; and, finally, to lay the foundation of dyspepsia. And it is often met with among students; artisans who confine themselves closely on their seats; females of unequal tempers, or of melancholy, desponding dispositions; or, of sedentary or studious habits. It is to be regarded chiefly as a functional disturbance, especially in its early stage; and the irregular febrile reaction, as well as the other disturbances connected with it, is the product of functional irritation, and is entirely sympathetic.

The *treatment* demanded in this variety of constipation does not differ essentially from that already pointed out in the simple. Enemata will be required, and should be employed as advised under that head. Generally, the perverted secretory action of the liver will demand for its correction agents that influence the secretion of bile. In some instances, the cautious employment of the blue pill, administered at night, will greatly improve the action of the liver. This remedy, however, should be seldom used, as it tends to depress rather than to exalt the secerning process of the liver, when its disorder is chiefly functional. A remedy I have often resorted to in these cases,

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is the rhubarb root taken a few minutes after dinner, and at bedtime. From three to four grains of the root sliced off, chewed, and swallowed daily, will, in many cases, prove highly beneficial, not only in restoring solubility to the bowels, but in completely disembarrassing the secretory exercises of the liver also; and the only objection that can possibly be urged against the use of it, is its tendency, with certain constitutions, to act unduly on the kidneys as a diuretic, and in that way defeat its aperient operation on the bowels. To be beneficial, the rhubarb must be perseveringly used after it is once commenced with; and the quantity should be frequently varied, to guard against the formation of a habit during its employment, that might impair the aperient effects of the remedy. A combination of aloes and supercarbonate of soda, in watery solution, I have also frequently employed in this form of constipation, with great benefit. Prepared according to the annexed formula,* it proves a most valuable aperient, acting both upon the liver and muciparous cryptæ of the intestines. It also effectually corrects and prevents acidity of the primæ viæ; and doubtless, to some extent, proves assimilative, especially when oily substances are freely used as food. The small bulk of fluid which holds in solution the requisite quantities of the aloes and soda, renders the remedy far less disagreeable than might be expected, from the well-known bitter taste of aloe—the active constituent of the solution. Age improves the remedial action, as well as the taste of this compound. After the solution has been prepared seven or eight months, or longer—for the older it is the less of the bitter taste it possesses—the remedy may be taken without tasting the aloes except very slightly. With many persons the taste is rather agreeable than otherwise, especially after using it awhile; and with all who have made satisfactory trials of it, it never fails to become a favourite remedy.

The proper times for using this remedy are a few minutes after dinner, and supper—from twenty-five to thirty. The usual dose is a fluidrachm, or a teaspoonful, but it may be augmented considerably beyond that quantity—even to an ounce in some cases. I have generally varied the dose, so as to secure the

* *Aperient Solution.*—℞. Aloes socat. ℥iiss; Super carb. sod. ℥vj; Water Oiv; Spirit lavand. compos. f℥ij. After digesting for fourteen days, the clear liquid may be decanted; or it can be suffered to remain on the feces. Age greatly improves this aperient, both in power and taste. In 1831, a case of dyspepsia occurred in my practice, with an extremely delicate female of strumous liability, whose habit was decidedly costive. She could not bear aloes in the form of pill or tincture. The pill, or powder, invariably induced most troublesome hemorrhois; while the tincture as constantly disagreed with the stomach and head, by reason of the alcohol it contained. Aloes I believed necessary to her recovery, as mercury was totally inadmissible as a cathartic, and because her catamenial flux was irregular, or suspended; and the liver acted so imperfectly as to endanger the mucous membrane of the intestines, from the long suspension of the biliary secretion. In this state of the case, I first employed this compound as an extemporaneous prescription: it met all of the indications; the lady recovered; since which time I have often used it. I claim for myself the sole credit of originality in the invention of this compound.—J. P. M.

aperient effects without causing much disturbance of the bowels. A single dose will sometimes meet the indications; and when one only is used, bed-time should be selected for its administration. The solution for exhibition may be diluted in half a gill of fresh water, or even more if desired.

This aperient is applicable to nearly every example of the variety of constipation now under consideration, with the single exception of that distinguished by an alcalescent state of the stomach. It may be employed with safety even in the constipation of pregnant females. I have frequently used it in constipation attended with hemorrhoidal tumours about the verge of the anus with entire safety and great benefit. Indeed, it is allowable in all cases of constipation unattended with fever and acute inflammation, and will generally be found highly beneficial. I have employed it with singular advantage in nearly every variety of perverted menstruation attended with constipation, with which it corrected both the costive habit and the disordered menstruous action. Indeed, I now regard it as a valuable emmenagogue, when constipation exists as a concomitant morbid condition, and the dysmenorrhœa is unattended with fever and inflammation.

In constipation connected with long-continued derangement of the biliary system, or what is sometimes termed bilious dyspepsia, distinguished by an icterode discoloration of the eyes and skin, anorexia, flatulence of the stomach and bowels, frequently acidity of the stomach, nausea, and occasionally vomiting, general fading or blanching of the complexion, shortness of breath, occasionally œdema, scant and high-coloured urine, now and then thirst, generally a feeble pulse, a dry skin, and irreguler fever, or rather febricula, with increasing debility, it will be found the most useful aperient that can be employed. In some of the cases of this description, it will be useful to associate the nitro-muriatic acid mixture with the aloetic aperient, especially should the torpor of the liver be of long continuance and the biliary secretion greatly defective—the acid to be administered in doses of from seven to twelve drops, twice daily, before meals, or used epidermically, until a slight impression is manifested by it through the biliary and salivary systems, while the aperient solution should be employed after meals, as already advised. After this, the acid may be resorted to, according to circumstances. In many cases of this kind, however, perfect cures have been effected by the use of the aperient only, or that remedy and the cold infusion of the wild cherry bark, taken of moderate strength before meals.

After having carefully observed the effects of the aperient solution, I am decidedly of the opinion that it acts as a biliary secernent, and to some extent seems to subserve the uses of the bile itself, in promoting secretion throughout the mucous lining of the enteritic cavity. It also promotes digestion, by favouring the ready assimilation of oily food, as well as by preventing undue acidity of the ingesta taken in as food.

I have often employed this aperient in the constipation of hysterical and hypochondriacal persons with great benefit. When used in these cases, some

nervine incitant may be united with it, such as the tincture of valerian, or castor.

In the constipation of the convalescing stage of fever, after patients begin to take solid food, it will be found of great value in guarding against relapse, by regulating the bowels, and through its tendency to promote digestion. The doses, however, should be small, and the remedy cautiously administered. With students of sedentary habits, who cannot always procure the means for using enemata, it is the very best remedy in the world for obviating the constipation so troublesome and health-destroying with them at that interesting and important period of their lives. If used regularly, their bowels will seldom ever become constipated; and the use of the remedy is not attended with inconvenience nor trouble, and never interferes in the smallest degree with study or diet.

II. *Worms in the Intestinal Cavity.*—Without attempting to give the pathology of intestinal or gastro-intestinal worms, I will merely offer a few practical remarks in regard to the treatment of some of the diseases connected with their presence in the enteritic cavity; and first of

Diarrhœa.—It is by no means uncommon for this affection to co-exist with worms in the intestines, and occasionally a most troublesome and intractable disease is the consequence. This diarrhœa, which I have for many years termed verminous, is more liable to occur during the warm damp seasons of spring and early summer—the season most propitious to the prevalence of cholera infantum—but may make its appearance at any season or period of the year. It now and then supervenes upon cholera infantum when that disease has continued for a length of time, and assumes subacute characters. In many instances, it follows catarrh introverting upon the mucous membrane of the intestines, the improper use of fruit, and indigestible food. Once induced, it seems to be kept up by enteritic verminous irritation, and is absolutely incurable unless the entozoa are expelled. In some cases, the emaciation attendant upon the diarrhœa is extreme, and it is by no means uncommon for it to prove fatal. Throughout the whole course of this troublesome disease, there is more or less fever, but in the early stage especially. And it is not by any means unusual to find the stomach more or less irritable, occasionally resulting in vomiting after the imbibition of drinks or liquid nourishment. The alvine discharges are exceedingly thin, fetid, often watery, but of variable colour. Thirst is an abiding symptom as well as a most troublesome one. Generally, the appetite is greatly impaired or entirely extinct, or voracious.

In treating this affection in its early stage, especially if there is much fever, a moderate dose of calomel, succeeded by a brisk cathartic, will generally mitigate or put a stop to the disease. From three to eight grains of calomel given at bedtime, succeeded by a dose of warm oil, or half an ounce of the syrup of rhubarb, or the ordinary dose of the infusion of senna for chil-

dren, will in most cases meet the indications. In some of these cases, I have succeeded in arresting the disease promptly by administering commanding doses of blue powder. A dose of ten grains, given morning and night, mixed in a cup with dry brown sugar, and washed down with water, tea, or milk, for three times, will often arrest the disease in its early stage promptly. Frequently, a single dose will be sufficient. In some instances, too, I have promptly put a stop to the disease by giving half an ounce of the syrup of rhubarb morning and night for two or three times; and, generally, when the complaint is relieved, worms have been more or less freely expelled.

It is in the subacute or chronic stage that most difficulty is generally met with in treating verminous diarrhœa, as the subjects of it are then considerably emaciated and enfeebled, and the disease is rapidly tending to disorganization of the mucous lining of the intestines, as well as to effusion upon the brain.

The treatment now required should consist of aperients, and such agents as exert a supporting influence with the organism. To meet these demands, I have, within the last five or six years, employed a combination of syrup of rhubarb and the tincture of diospyros Virginica,* with distinguished benefit. A drachm of the syrup, and from ten to fifteen drops of the latter, administered two, three, or four times daily, constitute the compound I have employed. If the case prove obstinate, a few drops of spirit of turpentine may be united with the compound, once or twice during the day, especially with morning and night doses, say from ten to fifteen. Or the turpentine may be applied epidermically, by anointing the hypogastrium with a liniment formed of spirit of turpentine and lard, in the proportion of half an ounce of the former and six ounces of the latter; or of weaker strength, if the patient be greatly emaciated and young. The compound syrup above mentioned, in numerous instances in which I have employed it, has speedily arrested the diarrhœa, and as uniformly been followed by the expulsion of numerous lumbricoid worms. In some cases of long standing, attended with very great emaciation, the diarrhœa was arrested, and vast quantities of worms discharged, in twenty-four hours, and the child virtually cured in that time. More commonly, however, several days were required in such examples before the disease would yield; and in all cases it was my practice to continue the remedy by administering an occasional dose of it until convalescence had considerably advanced, and to resume its use upon the slightest return.

With the older description of subjects, say from four to six years of age, I have used a combination of the aperient solution with the syrup of rhubarb and tincture of diospyros with much advantage in verminous diarrhœa. In these examples, the secretion of bile, and its presence in the enteritic canal,

* The formula for its preparation will be found in my paper "On the Use of the Unripe Fruit of the Diospyros Virginiana as a Therapeutic Agent," published in the October number of the American Journal for 1842.

are more important to the healthy exercises of the organs co-operating with the liver, in the performance of the digestive function, than in earlier infancy; and the good effects of the aloetic with such are mainly due, doubtless, to its action as a biliary secretant. From half a drachm to a drachm of the solution may be given once or twice daily, in combination with the syrup of rhubarb and diospyros, and repeated until the evacuations ameliorate.

The diet, in each of these forms of diarrhœa, should be regulated with care. In most of the cases, I found new, warm cow's milk to agree best, if mother's milk could not be obtained. Rice gruel, boiled milk, or milk thickened with flour, and chicken tea made by long boiling, were the kinds of nourishment I generally employed. Once in three or four hours, as a general rule, was often enough to allow nourishment to be taken; and, after these intervals, it should only be received in small quantities at a time.

The tendency to introversion upon the internal organs being constant in these affections, by reason of the bloodless state of the surface, and its variable temperature, flannel should generally be put on next the skin. To guard the encephalon against effusion, an occurrence so liable to take place in these affections, I have invariably resorted to blisters over the head, or behind the ears, upon the slightest appearance of cerebral irritation. And for the purpose, I always employ the strong acetous tincture of flies; and I never cut off the hair, as the "fly-vinegar" acts quite freely enough without. After wetting the scalp, cover the head with a leaf, or oiled silk cap, and in an hour or two blisters will form.

III. *Uterine Hemorrhage.*—Since 1838, I have relied chiefly upon internal astringents in treating the subacetate forms of this disease, in connection with aperients and spinal cupping; and, in a majority of the cases, my chief dependence has been on the tincture of the diospyros. When the hemorrhage is connected with an excited pulse and a warm dry skin, I have generally preferred to commence the treatment with a solution of the sulphate of alumen and nitrate of potash, in the proportion of five or ten grains of the former, and six or eight of the latter, to the ounce of water. Sweetened with refined sugar, the dose is quite pleasant, and seldom offends the stomach. If it does, the quantity of alum and nitrate may be reduced. The doses may be repeated every hour, or once in two or three hours, until the hemorrhage moderates or ceases. As an aperient, the solution of aloes and soda, already noticed in this paper, may be employed nightly, or oftener, if necessary; or a pill of aloes, jalap, and colocynth in powder, of proper strength, can be used. If the case, however, be of decidedly subacute character, or depend on mere engorgement of the uterine vessels, the tincture of diospyros will be found most applicable; and I have generally employed it in preference to all other astringents, and with the happiest results. It may be administered in doses of one or two drachms, after intervals of one, two, three, or four hours, properly diluted, and sweetened if desired. This remedy will be proper, too, even in the more

acute forms, if the stomach reject the alum, or sugar of lead, as will often be the case. In the hemorrhage, or perhaps menorrhagia, often occurring with females near the critical period of life, and frequently attended with debility and anemia, it will be found eminently useful. Indeed, it is safe, as well as applicable, in all examples of uterine hemorrhage, after much blood has been lost, even floodings supervening upon parturition, or any stage of gestation, in connection with the tampon.

IV. *Diarrhœa.*—This affection is often connected, from its commencement, with relaxation of the mucous lining of the intestinal canal, and the discharges by which it is characterized are the product of effusion from the muciparous cryptæ, rendered incapable of the secretion of mucus by reason of such relaxation. It is also induced by œdema of the submucous cellular texture of the enteritic lining membrane. And it occasionally makes its appearance in connection with the highest degrees of irritation and inflammation of the mucous lining of the intestinal canal. Little difficulty will be experienced in the diagnosis of diarrhœa dependent upon debility or relaxation; and, although less clearly marked, that form connected with œdema of the submucous textures of the lining membrane of the intestinal cavity cannot be easily confounded with it, or the diarrhœa of exalted degrees of irritation or inflammation. The absence of fever, as well as of the acute symptoms invariably attendant upon diseases of inflammatory or acute character, and the presence of vascular depression, will generally establish the diagnosis of diarrhœa dependent on debility or relaxation. While the dropsical diathesis, and frequently a general disposition to œdema or coexisting dropsy, will indicate the œdematous variety. And the enteritic pain and inflammation, with the general febrile disturbance attendant upon the alvine discharges, will as clearly point out the existence of the acute form.

The *treatment* of acute diarrhœa of course is to be conducted upon general principles. The lancet will occasionally be required to combat the general fever and local inflammation, as well as mercurial, succeeded by oleaginous or saline, cathartics. Refrigerants will also be demanded, especially cool mucilaginous drinks. In many cases of acute catarrhal diarrhœa, I have succeeded in relieving the symptoms promptly by one decisive bleeding and ten grains of calomel, followed by an oleaginous or saline cathartic, administered three or four hours after the calomel. Should the first purgative prove ineffectual, a second or third will be required; and, as a general rule, blue mass or blue powder should be substituted for calomel after the first dose of the mercurial, and to be administered the night after the first cathartic, in combination with three or five grains of Dover's powder. In some cases, it will be necessary to associate fomentations, or even active rubefacients, to the abdominal wall, to relieve the enteritic pain. Rest and the mildest liquid nourishment will always be required until convalescence is established.

The *treatment* of œdematous diarrhœa will be influenced by the nature of

the attendant symptoms. If fever exist, and the pulse is firm and resisting, and the constitution vigorous, a course of medication decidedly antiphlogistic will be demanded. It is by no means uncommon to meet with this form of diarrhœa with labourers on the farms of middle Virginia, during the fluctuating season of spring, and especially when the labourers are engaged in the "warm-cold work" of burning "plant heads" in March, after a wet winter. In this example of diarrhœa, bleeding, active purging with calomel and oil, or a combination of magnesia and sulphate of magnesia, or "salts and senna," diuretic demulcent drinks, diaphoretics, and restricted diet will generally speedily arrest the disease. Sometimes, however, the case proves obstinate, and even threatens to result in confirmed dropsy. It will then be necessary to vary the treatment somewhat, and to render it both antiphlogistic and alterant. Mercurials, in combination with diuretics, will best meet the indications; and they should be urged to the extent of producing ptyalism. Combinations of calomel, or blue mass, and squill will form the best mercurio-diuretic; two grains of the former, and two-thirds of a grain of the latter, with two grains of nitrate of potash to each dose made into pills—a dose to be administered three times daily. In some cases, I have employed the mercurial in combination with the nitrate of potash, and one grain of ipecacuanha, or one-fourth of a grain of tartar emetic without the squill, and found it answer exceedingly well. Now and then I have resorted to active emetics of tartar emetic, squill, and calomel, administered morning and evening until the symptoms ameliorated, which, if proper depletion has been premised, will be the case after the second or third emetic. This treatment is particularly suited to those cases tending to implicate the pectoral cavity as a seat of dropsy; but it may be employed with signal benefit in the purely abdominal form also. For some time after the diarrhœa ceases, as well as the symptoms generally, it will be important to maintain the bowels soluble, or dropsy may ultimately supervene.

The *treatment* of diarrhœa connected with debility is sometimes attended with much difficulty. In its early stage, it will generally be necessary to employ some form of mercurials as a preparatory step; and blue mass, or blue powder should usually be preferred. When the mercurial is administered, night should invariably be selected for its exhibition; and it will be advisable, generally, to combine with it a few grains of Dover's powder, say from three to five grains. The mercurial will be indicated when the biliary secretion is essentially defective, or when the tongue is coated or aphthous. In many cases, it will not be necessary to follow the mercurial with a brisk cathartic, but to allow that remedy to "work itself off." Sometimes, however, a brisk cathartic will be required, and in many cases a moderate dose of oil, or the syrup of rhubarb will be found to answer the best purpose. A brisk cathartic will generally be required when the evacuations are highly vitiated. The purging in this disease must be repeated at least once in two days, as long as the evacuations are decidedly unnatural as to consistency and qualities; and if the diarrhœa does not yield, astringents will then be required.

In many cases, daily purging with moderate doses of the syrup of rhubarb will arrest the diarrhœa, and a cure follow. This will be the case when the discharges are only slightly vitiated. When the disease has existed for some time, it will generally require the use of astringents before a perfect cure can be effected; and, according to my individual experience, the tincture of the diospyros, or a strong tea or infusion of the unripe fruit, meets the indications most perfectly. The tincture may be administered in drachm doses, or even in larger, if need be, two or three times daily, until the diarrhœa is arrested. Occasionally I have united it with half an ounce or more of the syrup of rhubarb, to form an astringent cathartic; and have found the compound a most valuable remedy in speedily arresting the diarrhœa. This compound is best adapted to recent cases, or such examples as are distinguished by seromucous discharges without pain. When much debility exists, the tincture may be combined with Port wine, in quantities sufficient to excite the vascular system in some degree. In this form, I employed both the tincture and infusion, some years since, very successfully, in the treatment of some protracted and exceedingly bad cases of diarrhœa, following attacks of the bilious fevers of Mississippi. The infusion is applicable to a large majority of the cases of subacute or chronic diarrhœa, attended with more or less general fever; while the tincture is best suited to the cases distinguished by marked debility, and decided inaction of the heart and arteries, and irregular depressing fever.

Prince Edward C. H., Va., *June 13th*, 1849.

Art. XI.—*Large Vascular Tumour—Ossification and Obliteration of the Ascending Vena Cava.* By G. L. Collins, M. D., Providence, R. I., one of the Physicians of the City Hospital.

Palmer Briggs, a native of this State, æt. 34 years, single, temperate, dark complexion, hair and eyes dark, was admitted into the City Hospital 7th month 3d, 1849, at which time I obtained from him the following history of himself.

He was born in the country, and during the early part of his life worked on a farm. For five years previous to 1845, he was employed in school-teaching, and for the last four years, or as long as he was able to work, he has been engaged in the grocery business in this city. He enjoyed good health until 1841, when he had a severe attack of rheumatism, which continued with more or less severity for two years. He was confined to his bed nearly a year of the time. During this sickness, he took a great quantity of medicine, and, from his report, a large quantity of mercury, under the specific effects of which he laboured for a long time. He believed that he was finally cured of the rheumatism by "steaming," a process that was often repeated

for a period of six months or more. He has had within a few years several large superficial ulcers on the legs, which are now healed, leaving permanent dark cicatrices.

In the 10th month, 1847, he first noticed a "small bunch" on the left side of the os coccyx, which gradually enlarged, until by its size it began to offer some obstruction to defecation; there was no appearance of hemorrhoids, nor did he suffer pain. It continued to increase pretty rapidly, extending outwards and upwards until the 2d month, 1849, when it had reached a very great size, rendering him entirely unfit for any business. About this time, he was seen by Dr. M. Parsons, and afterwards by Dr. L. L. Miller of this city, the latter of whom sent him to Boston for the examination of Dr. Lewis, where he was seen not only by him, but by several of Dr. Lewis's professional friends, whose interest was awakened by the size of the tumour, and the enormous enlargement of the abdominal veins. The tumour was unmistakably vascular in its nature, and to so great a magnitude had the disease arrived, and so formidable was it in its appearance, that it was not thought proper to attempt any means for a radical cure. It was therefore advised to give support to the mass by strapping, and other mechanical means to guard against a rupture of the distended vessels, which were extremely large, tortuous, and very superficial, and which would probably be attended by a dangerous hemorrhage. Within a few weeks, however, a rupture did take place, and a most profuse and alarming hemorrhage was the result; the quantity of blood lost was great. The bleeding was, however, arrested, but returned after the lapse of a week, with much violence, though not equal to the first. There was at no time any pulsation in the tumour. In the 3d month, he put himself under the care of a young physician, of this city, somewhat irregular in his practice, for the purpose of having a radical cure performed. This gentleman had conceived the rather bold idea of producing a permanent cure by puncturing the tumour with hot needles, as is frequently practiced so successfully in cases of naevi materni. He accordingly introduced them freely about the base of the tumour, at three different times at intervals of two or three weeks, after first causing the patient to inhale chloroform. The effect of this treatment was not only to coagulate the blood, but to convert it after the lapse of a short time into a suppurating tumour.

I have a cast of the tumour taken about the first of 2d month, by Dr. Fisher, a dentist of this city, and kindly given me by him, the dimensions of which are by a vertical line running from a point near the anus towards the left sacro-iliac symphysis, thirteen inches, by a transverse line over the most prominent point of the tumour, ten inches. This was not taken, however, when it was largest, as its size had been considerably reduced by the hemorrhages.

At the time of his admission into the hospital, he was greatly reduced by the frequent bleedings, and the copious discharge that was constantly going on from the tumour. He was much emaciated, extreme debility, was unable to

stand without assistance, tongue dark-coloured, and dry, pulse frequent and small, countenance anxious. His bowels were moved with much difficulty, and never without the aid of an injection. There were two openings into the tumour upon its most prominent part, each about the size of the little finger, one inch apart, and both leading into the same cavity. A probe could be passed into this cavity, with little obstruction, five inches in one and about three inches in several other directions, the silver always returning quite blackened. The discharge, which was very copious, consisted of a thin grumous fluid, so offensive as to render the air of his room almost intolerable. Occasionally a tortuous, cylindrical mass, four or five inches in length, and half an inch in diameter, was drawn out, appearing to be a portion of enlarged vein, filled with coagulated blood. The superficial veins of the abdomen were enormously enlarged. Zigzag lines of varicose veins, communicating with the femoral below, ran up to inosculate above with the mammary, or with the axillary, as some of them evidently did. Many of them were of a size almost and some even quite as large as the small intestines; indeed, the patient, at first, as he told me, believed them to be his intestines, which, owing to his emaciated condition, could be perceived through the parietes of the abdomen.

He was put at once upon a tonic and restorative course of treatment, under the use of which he soon began to mend. His tongue became moist and clean, his pulse less frequent and fuller, his strength rapidly increased, and in a few weeks he was able to rise from the bed and walk about the house, by the help of a cane. His bowels, which so long had refused to act, were relieved, once only, by an injection, the second day after his admission. On the third day following, they were moved by a small dose of castor oil, after which they remained sufficiently open without the use of medicine. The cavity of the tumour was injected every day with dilute liquor sodæ chlorinatæ, and a cloth, saturated with this liquid, was applied externally. He thus continued without much change in his general condition for about two months, the tumour gradually growing smaller, and the discharge from it as gradually diminishing.

Two weeks after his admission into the hospital, it was noticed that some of the smaller of the enlarged veins, situated towards the left side of the thorax, were becoming obliterated by the spontaneous coagulation of the blood. This process gradually went on, each week presenting an additional section of the mass of varicose veins thus firmly closed. This seemed to be accompanied by a considerable local inflammation, evinced by great tenderness and a dark-red line following the course of the obliterated vein, which could be felt as a firm cord beneath the skin.

About the first of the 9th month, his bowels became deranged, and from being moved with difficulty became too open. The discharges numbered from six to twelve daily, upon which opium and astringents had no effect. His strength began again to decline, his feet and legs soon became œdematous,

and he was frequently seized with violent fits of palpitation of the heart, during which the pulse would sometimes become too frequent to be counted. He complained also of great coldness of the lower extremities, rendering artificial warmth frequently necessary.

For twenty-four hours previous to his death, which took place 11th month, 4th, he was wholly unconscious, though apparently suffering very great distress. He lay upon his back, the extremities cold and pulseless, the eyes turned upwards and fixed, with the pupils dilated, the jaws firmly closed, but the teeth often violently grating, the arms widely extended, and thrown about, and the head constantly rolling from side to side. This state of extreme uneasiness and distress, which was truly painful to behold, continued until a few hours before he expired, when he became tranquil, but still insensible, and thus died.

Autopsy. - 11th month, 5th. Twelve hours after death. Present, Drs. J. Mauran, L. L. Miller, H. W. Rivers, L. W. Clifford, J. W. C. Ely, N. Miller, and others.

The body considerably, though not extremely, emaciated; both legs œdematous, the right more so than the left. The external veins of the abdomen mostly obliterated; in some, the coagulum was entirely absorbed, in some only partially, and in others, the coagulation was still imperfect. The femoral veins were plugged up with firmly coagulated blood, as were the saphenas in their upper portion.

The tumour was flattened externally, and scarcely one-sixth of its original size. The openings, which had been converted into one, soon after he was admitted, had diminished to the size of a large goose-quill, and had continued to discharge until the time of his death.

The chest was large and full. The lungs were in a normal condition, with the exception of some slight old pleuritic adhesions on the right side. A little serum, perhaps three ounces, was found within the pleura, upon the left side. The heart was rather below the average size, and of a lax fibre. The right side filled with blood. The usual quantity of serum was found in the pericardium. The valves were all in a healthy state. The inner surface of the ascending aorta presented a thin false membrane, which could be detached in flakes of considerable size; it was otherwise healthy. No ossification in any part of the heart. The internal mammary veins were enlarged, but pervious. The descending vena cava was about the usual size, and distended with blood. The abdominal aorta was perfectly healthy, as were its branches. The ascending vena cava was of the usual size, and healthy to a point, tracing it downwards, a little below the origin of the right renal vein, when it became at once impervious, terminating abruptly in a sort of cul-de-sac. Below this point for two and a half inches, the vein was converted into a firm cord, about two lines in diameter, in the substance of which was a deposit of compact bone, sufficiently firm to arrest the passage of the knife without the application of considerable force. The vena cava from this ossific de-

posit to its bifurcation was converted into a dense impervious cord, as were the common iliac veins, though the latter retained a trace of the tubular form, as a small probe could be passed through them. The external iliac veins gradually enlarged as they passed downwards, until under Poupart's ligament, when they were of the normal size, but were still closed by a mould of firm coagulated blood. The internal iliac veins were diminished to the size of a crow-quill, closed by an old coagulum, and seemed to be lost in the remains of the tumour, as was the case with some of the branches of the internal iliac arteries. The other viscera of the abdomen were healthy, with the exception of the mucous membrane of the lower part of the ilium and that of the colon, which was red, congested, and in some places, thickened. The bladder was forced a little upwards out of the pelvis, but was healthy. The rectum lying, upon the anterior surface of the tumour, was carried forwards so as to make a curve equal to that which it usually makes posteriorly. It was healthy, and in nowise implicated in the disease.

The remains of the tumour occupied a position behind, and a little to the left of the rectum; they were reduced to about the size of a fœtal head, and consequently occupied nearly the whole strait. The mass lay a little below the sacrum, and pressing upon the lower portion, a part of which had been absorbed from its pressure. It contained two cavities, one with its walls collapsed and communicating with the external opening; the other above, and separated from the first by a wall about half an inch in thickness, contained about a gill of thin offensive pus. The remainder of the tumour was firm and compact, about the colour of liver, and had lost almost all appearance of vascularity.

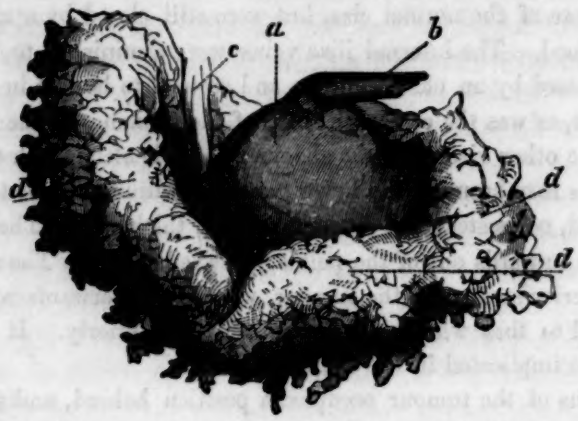
ART. XII.—*Case of Excision of the Uterus.* By PAUL F. EVE, M. D., Prof. of Surgery in Med. Coll. of Georgia. With Remarks, by C. D. MEIGS, M. D., Prof. of Obstetrics and Diseases of Women and Children in Jefferson Med. Coll. of Philadelphia.

TO THE EDITOR.

DR. I. HAYS—DEAR SIR: When Professor Eve, of Augusta, Georgia, passed through Philadelphia, on his return from the meeting of the Association at Cincinnati, he gave me a pathological specimen, which is now in my museum. This specimen consists of the uterus of a woman of colour, which was removed by Professor Eve, in the hope that, by such a desperate operation, he might be able to rescue the patient from the imminent death which seemed by no other means to be avoided. The uterus, which he removed in the manner described in his letter, has been very much changed in its external form by the ravages of a cauliflower excrescence.

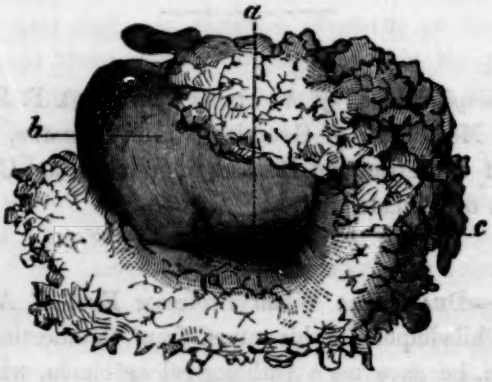
The two drawings that accompany this note give very faithful representations of the object in question. Fig. 1 shows the organ seen in a front view,

Fig. 1.



a being the fundus and corpus uteri, *b* the left Fallopian tube cut off in the operation, *c* the right Fallopian tube, while *d d d* indicate the os and the cervix uteri in a state of complete ectropia; that is to say, the cervix is turned inside out by the enormous swelling and the ravages of the cell-force situated within that structure. The drawing, which was made in my camera lucida, is reduced by the engraver so as to represent the womb only one-third as large as the specimen. It shows that the ectropy of the cervix has nearly buried or invaginated the body of the organ. Fig. 2 exhibits a view of the specimen

Fig. 2.



taken from below, or looking direct towards the os uteri, which is seen at *a*; while *b* and *c* exhibit the extroversion of the os uteri, and the remainders of the cauliflower excrescences developed by the disease.

I do not know that any American surgeon has heretofore extirpated the entire uterus *in sitû*—an operation that is said to have been first performed by M. Sauter, of Constance, in 1822.

M. Colombat de l'Isère informs us that the operation has been executed by Sauter, by Hoelscher, twice by Siebold, and thrice by Langenbeck; four times by Blundell; once by Bauner; once by M. Lizars; twice by Récamier; once by Dubled; twice by Roux, and once by M. Delpech; while this operation by Professor Eve adds one integer to the whole number, which amounts to twenty operations, in all of which the result was contrary to the hopes of the surgeons.

M. Colombat expresses the opinion that operations for the removal of the womb *in sitû* ought not to be in future performed, in consequence of the disastrous summing up of the statistical records. He does not apply his objections to the cases of incurable inversion of the organ.

There are too many examples of recovery after extirpation of the inverted organ to leave any doubt on the mind as to the hopefulness of such an operation. Still, as I have firm confidence in the opinions I have published in other places as to the power of spontaneous cure of inversio uteri, I should hesitate long before resorting to the measure of extirpation. In my friend's operation, there is cause to congratulate him upon the skill and resolution manifested by him, and upon the very hopeful success up to a certain point.

The following extract, from Prof. Eve's communications, will show that, but for the recommencement of the original heterologue development in the vagina, the patient had, in the most remarkable manner, been rescued from death.

I send you herewith an extract of a letter from Prof. P. F. Eve; also, a letter from Dr. J. A. Eve; and, lastly, extracts from two letters from the surgeon.

Very respectfully, your obedient servant, CH. D. MEIGS.

"On the 16th of April last, I removed the entire womb from a patient, who has recovered. The operation was performed at my surgical infirmary, in which I was assisted by my cousin Dr. J. A. Eve, Professor of Obstetrics and Diseases of Women and Infants, and by Drs. Murray, H. Campbell, Longstreet, and Montgomery, and in the presence of several others connected with the profession.

"The patient is a negro woman, twenty-eight years of age, has been married; but never conceived, as she believes. For more than three years, she has been labouring under uterine affection; at least, she has been annoyed for about that length of time by a vaginal discharge. The history of diseases among our negro population is generally very imperfect and unsatisfactory; and this is especially true as regards uterine derangements. All we can obtain, in the present case, is that the patient experienced great irregularity in menstruation, and had frequent hemorrhages from the vagina."

Yours, &c., P. F. EVE.

We now refer to Dr. J. A. Eve's statement of the case, as he observed it before she arrived at the infirmary in Augusta.

AUGUSTA, *April* 24, 1850.

DR. P. F. EVE:—

MY DEAR DOCTOR: Early on the morning of the 10th instant, I was called to visit Mary, the patient, whose womb you extirpated on the 16th, in consultation with Drs. Murray and Cook, some eleven or twelve miles from town.

Under the influence of morphine, which had been given before my arrival, the patient had become easy. On examination, I found a tumour of considerable size in the hypogastrium, and the whole pelvis, to the outlet, filled and blocked up with a lobulated, convoluted, incomprehensible mass, from which issued a copious and horribly fetid discharge.

As this was unquestionably carcinoma, cauliflower excrescence, encephaloid tumour, or some malignant growth, the patient's certain doom was death, after a few months, or at most a year, of miserable existence worse than death, unless rescued by surgery, in the performance of a heroic operation which would involve the removal of a portion or the whole of the uterus.

If such an operation would ever be indicated or warranted, the age (twenty-eight years), the vigour of constitution, and the comparatively unimpaired general health of the patient, made it proper in this case.

In consultation, I suggested to Drs. Murray and Cook that, as neither of us could take charge of, or do justice to, her case, so far from our respective residences, she should be removed, as soon as practicable, to your infirmary, where she would enjoy every advantage and benefit that favourable circumstances, as well as science and art, could afford her case; and that we should all meet and confer with you after her removal to this place; to which suggestions these gentlemen cordially acceded.

I know nothing of the previous history of this case except what has been related to us by Dr. Murray. In consultation, all the physicians present concurred in opinion with you, that the operation was one of extreme danger, and that the probabilities were as many, perhaps, as a hundred to one against its success.

Before the operation, Dr. Murray and myself visited the patient, explained to her its great danger, and the very great probability that she might not survive it; telling her that, although it afforded but little hope, it was the only hope of delivery from suffering and death. We told her, farther, that it rested entirely with herself to determine whether or not she would submit to the operation. Without persuasion or influence of any kind, she determined promptly and unhesitatingly to submit to the operation, terrific as it was represented to be. She is now doing well, and in all probability will return home next week. Your sincere friend,

J. A. EVE.

Operation.—The bowels having been previously emptied, a large quantity of urine was drawn off by the catheter, which diminished considerably the hypogastric tumour, and proved the bladder to have been generally distended, as there was then no urgency to micturition—in fact, the patient was unconscious of the distension. About two pints were thus evacuated. Chloroform was now inhaled to its full anæsthetic effects, when the vaginal tumour was seized by various forceps, but which, after large tubercular masses were torn off, was finally brought down to the os externum by the left hand. Finding it impossible to remove the firm resisting body now presented to view, it was carefully excised from above downwards, or in an antero-posterior direction, by the knife—I confess, with some suspicions at the time, it might be the uterus. One artery (now believed to be the left uterine), throwing out blood quite vigorously, was seized, and an animal ligature cast around it. A solution of sulphate of zinc was applied to restrain further hemorrhage, which had been considerable.

There was no protrusion of the bowels, nor was the case followed by any very severe symptoms. A most rigid confinement to the horizontal position was strictly enforced for about ten days, with absolute diet, &c. &c. The bladder, it is presumed, filling up again, pushed the intestines backwards, while the opening made into the peritoneum was closed by agglutination and subsequent adhesion. The rectum was evacuated on the fourth day after the operation by warm water, and the bowels were moved freely by oil on the fifth.

In the mass removed, the uterus is readily recognized, with its Fallopian tubes, broad and round ligaments; but the os tincæ is involved in the encephaloid degeneration. The tumour in the vagina was about the size of a child's head at full term. No one, it is believed, who has examined it has entertained the least doubt but that the entire womb was removed, and this includes, besides the gentlemen who witnessed the operation, Dr. R. D. Mussey, Prof. of Surgery in the Medical College of Ohio, and Chairman of the Committee on Surgery for the past year in the American Med. Association; and my preceptor, Dr. C. D. Meigs, the distinguished Prof. of Obstetrics, &c. &c., in the Jefferson Med. College, with whom the uterus has been deposited, and who has kindly insisted upon presenting the case to the profession in his own way.

During my absence at the meeting of the Medical Association in Cincinnati, the case was left under the care of my relative and assistant, Dr. A. P. Longstreet. The patient returned home on the 3d of May, visited Augusta again on the 20th, to inquire why she had had no hemorrhages (menstruation) since the operation; and, in answer to a letter, Dr. Murray writes, on the 10th of June, that he saw her "up and about" the day before, and promised to bring her in a few days to my office.

Fifteenth of June, two months after the operation, the patient, Mary, has called, after riding eleven miles on a loaded lumber wagon. She is much

improved in flesh and appearance, and has enjoyed good health. She says there has been a slight show of blood but once since the operation, and only a moderate discharge at times of colourless fluid. But I regret to add we have most unmistakable evidence, both ocular and by touch, of a rapid reproduction of the encephaloid disease, which in all probability must sooner or later destroy life.

(Extract of a letter dated Augusta, July 29th, '50.)

My dear Doctor: I write to say Mary, my *non-uterine patient, is dead.* She died on the 22d of July, having lived three months and a week after the operation. She became œdematous (ascites, also), but had no hemorrhage, neither protrusion of the disease from the os externum. I regret no post-mortem was made by the physician in attendance, and I only learned her decease incidentally at the time.

PAUL F. EVE.

Dr. C. D. Meigs.

REVIEW.

ART. XIII.—*On Diseases of Menstruation, and Ovarian Inflammation, in connection with Sterility, Pelvic Tumours, and Affections of the Womb.* By EDWARD JOHN TILT, M. D., Physician to the Farrindon General Dispensary, and to the Paddington Free Dispensary for the Diseases of Women and Children. "Omne animal ab ovo." 12mo. pp. 250. London, 1850.

THE importance of the ovaries in a physiological point of view renders the investigation of their several pathological conditions, with their direct and remote results, a subject of deep interest. Being the organs by which, in the female, the act of reproduction is effected, it might be inferred, *à priori*, that when they become involved in disease, not only will their immediate function be suspended, or perverted, but that derangement will, also, occur in all the acts accessory to that of reproduction; many of those affections which have, heretofore, been considered as dependent upon a morbid condition of the uterus, being, in fact, the result of disease of the ovaries—the uterus becoming involved only secondarily. Dr. Tilt, in the work before us, has endeavoured to show that the inference thus derived from the physiological rank of the ovaries is established by the result of repeated clinical observations, and has pointed out the several ways in which sterility is produced by the action of inflammation on the ovarian tissues; the great importance of ovarian peritonitis as a cause of disordered menstruation; and the influence of ovarian inflammation in the production of uterine disease; illustrated by numerous cases derived from his own observations, and those of other practitioners, British and Continental.

The work is one which deserves to be closely and candidly studied by every physician engaged in the general duties of his profession. Although the author may, perhaps, have carried his views in reference to the results of the pathological states of the ovaries somewhat beyond what the observations adduced by him strictly warrant, still, of the general accuracy of the doctrines and practical instructions presented by him, little, if any, doubt can be entertained. No one, we are persuaded, can fail to derive from the careful perusal of the present treatise much valuable information in relation to a class of diseases of frequent occurrence, the pathology of which has, heretofore, been involved in obscurity, while their treatment, to say the least of it, has been uncertain and empirical.

In an introduction of some twenty pages, the author discusses cursorily the questions: why should medicine be uncertain? what are diseases of menstruation? what is menstruation? what are the organs of menstruation? what is inflammation? and, by what influence does inflammation in the ovarian tissues produce diseases of menstruation? A prolegomenon follows, occupying thirty-nine pages, devoted to a consideration of the extraordinary confusion relative to the history of ovarian inflammation; of its frequency, as proved by the frequent detection of inflammatory morbid lesions in the ova-

ries; of the reasons for the past neglect of ovarian pathology, and for the pre-eminence traditionally assigned to the uterus amongst the organs of reproduction; of the difficulty of exploring organs so small and so deeply seated as the ovaries; of the similitude of the leading symptoms of subacute ovaritis to those of inflammation of the womb; of the popular conviction that menstruation is a natural function, for the evils attendant upon which there is no remedy, and of the repugnance of patients to submit to, and of physicians to press for an examination; followed by a sketch of ovarian bibliography from the time of Aetius to the present day, showing that medical authors, ancient as well as modern, have described the puerperal form, some few moderns the acute idiopathic, but that none have investigated the subacute form of ovarian inflammation, although many have given hints, suggestions, &c., of the existence of this form of disease; the whole concluding with an account of the different modes of ovarian exploration—abdominal, vaginal, rectal, and these two latter conjoined.

As the practice of these modes of exploration are essential to the attainment of a certain diagnosis in cases of ovarian disease, we had marked the author's account of them for insertion in the present notice, but have been obliged, in consequence of its length, to omit it.

The first five chapters of the treatise are devoted to a consideration of subacute ovaritis; its causes, symptoms, terminations, and treatment.

Dr. Tilt defines this form of ovarian inflammation, as follows:—

"Swelling of the ovaria, with increase of heat, and pain upon pressure, accompanied by intermittent or permanent pain, or uneasiness in the ovarian region, radiating to the loins and thighs, and producing, according to the constitution of the patient, an arrest of menstruation or its profuse flow, intense local pain, or hysterical symptoms.

"By *subacute* inflammation, as distinguished from *acute*, he does not so much imply a difference in the intrinsic nature of the morbid phenomena, as a limitation of the inflammatory action to certain distinct parts of the ovaries, as the ovarian follicle, and to portions of the ovarian tissue so small that they give rise to little swelling, and to no febrile action."

After pointing out the predisposition of the ovaries to inflammation, resulting from their anatomical structure and their condition during ovulation, the author proceeds to describe the pathological anatomy of subacute ovaritis. He first notices the frequent occurrence of adhesions, false membranes or thickening, in that portion of the peritoneum covering the generative organs in the female; with loss of transparency, or a spotted or striated suffusion of the subjacent cellular tissues, caused by the infiltration of a thick opaque serosity, of a white, pink, or yellow colour, or their distension with a gelatinous fluid.

The condition of the ovary itself is thus described:—

It is "slightly increased in size, or double its usual dimensions, resisting and elastic; on pressure, it yields a sensation of fluctuation; its surface is smooth, polished, and glistening; its tissue more red than natural, though less resisting; congested with blood, as described by Negrier, or moist with a seroviscous fluid." "It is traversed by a number of smaller vessels, especially in the neighbourhood of the cells, which, placed at the surface of the organ, contain ovules, and may be healthy or diseased.

"The vesicles have been found presenting *individually* evident signs of all the different stages of inflammation, although surrounded by a perfectly healthy stroma; the parietes of the vesicles have been found highly vascularized, so as to look like red currants, friable, lined with false membranes or full of well-formed pus; intimate but unerring testimonials of previous inflammation. The proof of their chronic inflammation has still more frequently been

observed. They may be hypertrophied, of the size of a pea or larger, round, or falciform, with an extremely dense white internal membrane, having a polished surface, of the thickness of parchment. They may also be found pellucid, having interposed between them and the parenchyma of the gland one or two other distinct membranous layers, with or without intermediate granular matter. They may contain either a green, yellow, or fatty liquid, or a pulpy substance, like the interior of an encephaloid cyst, or even solid saline concretions, as observed by Morgagni. The vesicles are sometimes found, on the contrary, atrophied and blighted; their liquid contents being partly absorbed, the follicles are no longer fully distended, but look like wrinkled sacs, of a white or grayish colour; and here we may observe that, however difficult it may be to understand, inflammation is known to cause sometimes hypertrophy of the ovaria, while, at other times, under the same mysterious influence, the ovaries of young women have been found as hardened and collapsed as those of women who have outlived the period of active ovarian life. These white bodies and cysts are never observed before menstruation; but they may be met with in every other stage of life, in virgins as well as in prostitutes. From the nature of these lesions, which are evidently inflammatory, we are able to infer the relative frequency of various stages of inflammation in one or more of the ovarian follicles."

"When subacute ovaritis occurs in the puerperal state, the ovaries are found greatly increased in size, their tissue becomes more friable, and infiltrated with yellowish or violet-coloured serum, sometimes resembling that of the spleen, but at other times it is more infiltrated with serum, slightly tinged with blood. In recording these lesions, and ascribing to them their due value, we must not, however, forget that the ovaries may be partially, and even seriously inflamed, without the power to perform their proper functions being permanently compromised."

"The liability of the Fallopian tubes to inflammation is proved by their often presenting undoubted traces of its having existed. This is not only the result of our own experience, but is confirmed by the testimony of those who, like Dr. Ashwell, Dr. R. Lee, and Professor Cruveilhier, have attended to lesions of the ovaries, and of their ducts; and Dr. Hooper, in the few pages prefacing his admirable delineations of uterine and ovarian disease, does not hesitate to say that the Fallopian tubes are frequently found to have suffered from inflammation! Their inflammation is almost always a consequence of ovaritis or metritis, and is confounded with these diseases exactly in the same way as Fallopian cysts are confounded with ovarian—a confusion of diseases which, as the same treatment is required in both cases, is indeed of but little consequence. As regards the morbid conditions which have been noticed, the fimbriæ may be found preternaturally florid, highly vascular, filled with blood, attached by recent false membranes to the ovaries or adjacent organs, or bound down to the same by firm, thick bands of long standing. The fimbriæ of both Fallopian tubes may be found destroyed, but in general those only of one or the other are seen to be totally so.

"This is a lesion of very frequent occurrence (Dr. Hooper), and with it generally coincides the obliteration of that extremity of the tube by which it communicates with the peritoneal cavity. The oviducts then terminate in a cul-de-sac; they are also increased in size, and are mostly tortuous, or of a pyriform shape, and their sides are thicker than usual, and fluctuating when pressed. On being opened, they are found to contain a serous, albuminous, puriform, or bloody fluid, and their internal surface is covered with tenacious or flocculent albuminous substance, the removal of which exposes tissues which are inflamed and softened. We may here observe that, however frequently obliterations of the Fallopian tubes may have been found, their imperforation, whether congenital or accidental, has been very seldom met with. A web of false membranes has been often discovered lining the interior of the oviducts of prostitutes, and of those women who have recovered from puerperal metro-peritonitis; whereas the same tubes are often found full of mucus, or even pus, in those who have died in the acute stage of the disease."

"In some cases, the oviducts may be perfectly healthy, and still unable to perform their allotted task, owing to the existence of false membranes, by which they may be glued to the neighbouring viscera, so as to preclude the possibility of their precise adaptation to the ovaries. Varying in density from that of the finest diaphanous film to that of strong ligamentous bands, these false membranes are of very frequent occurrence; and, in prostitutes, the ovaries and Fallopian tubes are seldom found without some one or other of the lesions already described, if we may rely on the testimony of Walker, Renaudin, and Dr. Oldham."

In regard to the causes of subacute ovaritis—Dr. Tilt refers to the nature and functions of the genital organs as the principal circumstances which predispose to the disease. The periodical congestion of the ovaries predisposes them, when from any cause this congestion is carried to a greater degree than ordinary, or is protracted beyond the usual time, to an attack of inflammation. In many of the published cases of ovaritis, we find, accordingly, that the disease came on at the time and instead of the menstrual discharge. It is more particularly liable to occur in women who are nervous, irritable, hysterical, and of a scrofulous habit. Dr. T. has not been able to verify the remark of Retzius, that women of a certain age, who have borne children, but have not suckled, are often attacked with ovaritis. Excess in sexual indulgence is not unfrequently a cause of subacute ovaritis in newly married women; but the disease is more especially the sequel of inordinate sexual intercourse in prostitutes. Walter and Renaudin state, as the result of their experience, that the ovaries of prostitutes are seldom without some morbid lesions, an assertion recently confirmed by Dr. Oldham.

"The privation of sexual stimulus is no doubt a cause of certain forms of subacute ovaritis; whether we consider its absolute privation in healthy women, whose feelings and passions are strong, or its sudden denial to those accustomed to its indulgence, as in young widows, whom Hildenbrand considers to be often attacked with this complaint, or as in prostitutes when placed in confinement. In such cases, the cerebro-spinal sympathies are called into active play, and hysteria masks its local cause. Marriage late in life is sometimes of itself a sufficient cause of subacute ovaritis. It seems as if the ovaria, having been debarred their proper stimulus when most needed, become so accustomed to the privation, that when the stimulus is at last presented to them it produces a morbid impression. Subacute ovaritis is also one of the pathological elements of that state, truly described as the critical time in the life of woman, and then, in most cases, it reacts on the uterus so as to produce those sudden floodings which so often terminate menstruation. If this be not the case, the periodical congestion, which has lasted for so many years, does not at once subside; it still exists long after the menstrual flow has ceased; and as this ovarian congestion is not relieved by its accustomed discharge, the ovaries are liable to inflammation, if such a result be not carefully warded off by repeated purgatives and judicious bleeding, according to the practice of our medical forefathers; a practice, perhaps, too much neglected in our own day."

Among the other causes of ovaritis, Dr. T. enumerates all those habits of life, and artificial excitements, which tend to exaggerate the impulse of unsatisfied desires; the disease in such cases being sometimes characterized by the development of hysteria. Nonat has twice seen acute ovaritis in the virgin.

The left ovary seems more liable to inflammation than the right; in seventeen cases, Dr. T. found the right ovary affected in only five. Roux has pointed out the congenital shortness of the vagina as being not an unfrequent cause of ovarian and uterine inflammation in those who are placed under matrimonial influences.

Among the exciting causes, Dr. T. enumerates falls on the feet, knees, or sacrum; violent jolting on horseback or in riding immediately after menstruation; the necessity for instrumental aid in parturition; disproportion between the child's head and the pelvis of the mother. A first confinement is a most important cause; in 25 out of Mr. Bell's 45 cases of pelvic tumours, and in 15 out of Mr. Taylor's 32 cases, they occurred in primiparæ. A very rapid delivery, and the tearing away of the placenta, have also appeared to bring on ovaritis. Styptic and stimulating injections into the cavity of the womb act also as an exciting cause. Retention of the menses, either from congenital occlusions of the vagina or uterine aperture, or accidentally induced by the blocking up the passage of the vagina from the pressure of tumours, or by the obliteration of the os uteri after parturition, or from the imprudent cauterization of its internal surface, or its closure, resulting from inflammatory tumefaction, or spasmodic contraction of the cervix—the two latter being a common result of cold externally applied, or cold drinks or ices imprudently taken into the stomach. Venesection, drastic purgatives, emetics, sexual intercourse, fever, mental perturbation or excitements, immediately before the occurrence of menstruation, are liable to cause the suppression of this discharge, and to induce subacute ovaritis, accompanied by dysmenorrhœa, or hysterical symptoms. When from any of these causes the menses are suddenly arrested during their flow, the subacute ovaritis they may produce is attended by engorgement of the uterus.

"The retention or suppression of the menses has, according to Dr. T., a twofold influence in the production of ovaritis, and it may be added, disease of the pelvic organs in general—first, by the retention of what was to have been excreted, and the consequent congestion of the organs which secrete the menstrual discharge; secondly, by the arrest of the ovarian discharge and the subsequent oppression of the system by some reflected influence of a nervous kind."

Catarrhal disease, and extensive ulceration of the neck of the womb, are also enumerated as causes of subacute ovaritis. The disease is likewise often an attendant upon metritis: sometimes the two coexist, and then the former is masked by the symptoms of the latter.

"M. Gendrin, whose name carries weight in such matters," Dr. T. remarks, "states that he has often seen cases of ovaritis and uterine engorgement, and metro-peritonitis, caused by deep cauterization, and in some instances even by the use of the nitrate of silver to the neck of the womb, or by styptic injections. But we have not only to fear the propagation of inflammation on account of the idiosyncrasy of the patient, or from the injudicious use of active escharotics, but likewise from the employment of various mechanical means which have lately been invented, and are now so much in vogue. The ordinary pessaries effect no good purpose, while they give rise to great irritation, and are as irrational as they are disgusting.

"We agree with Dr. Hervez de Chegoin that sometimes retroversion of the womb, by its pressure on the ovaries, may greatly irritate them; but we think Dr. Rigby has exaggerated the importance of this cause of ovaritis, and that in many cases the use of the stem pessary, without curing the retroversion, prolongs ovarian and uterine irritation. We have so often seen this to be the case that, without denying the good results which may have followed the use of the stem pessary in more skilful hands, we do not intend again to employ it. And when we remember that many of the uterine deviations and reflexions are *congenital*, as Mr. Jobert de Lamballe has well proved, and therefore beyond the pale of treatment, or else of so long a standing that they cannot be permanently *redressed;* and that in the majority of cases they are perfectly *harmless*—a fact which has been lately brought into the strongest relief by Professor Paul

Dubois, Hervez de Chegoin, and been received without contradiction in the important discussion on uterine disease now proceeding in the Académie Nationale de Médecine—finally, when we consider the mischievous effects often entailed by the employment of the stem pessary, and the fatal result it determined in the case reported by Mr. Bransby Cooper; we think our resolution is well founded, and, using the words of an anonymous writer, we are tempted to say 'that it is scarcely consistent with right principle to seek a doubtful good by means which have been proved to be fatally dangerous even in well-skilled hands."

As specific causes of ovaritis, Dr. T. enumerates the puerperal state, the rheumatic diathesis, and blennorrhagic infection.

The symptoms of ovaritis are, a dull pain in the ovarian region, brought on by walking, riding, or any sudden movement, or even by pressure on the side. The pain is increased in the erect posture; it extends across the loins and towards the thighs and fundament; it is then of a dull, dragging, heavy, and sometimes of an overwhelming nature. It is, however, seldom so acute as to induce the patient to seek for advice. If the patient is married, connection awakens and renders the pain more or less acute. The hands placed on the iliac regions can sometimes detect an increase of heat. Twice, Dr. T. has seen swelling of the left side coinciding with pain and swelling of the left ovary. There is frequently tenesmus, a desire of passing water, or an inability to do so, or bearing-down pains and impossibility to pass the fæces. In these cases, by a vaginal exploration, an increase of heat in the upper portion of the passage may be discovered.

"But, we are told, unless the ovaries are considerably swollen, their increase of dimensions will not be detected by this mode of investigation. It may, however, afford an indirect intimation of diseased ovarian action: thus, if one of the ovaries be inflamed, the patient's sufferings are greatly increased by forcibly inclining the neck of the uterus towards it, so as to direct the fundus uteri to the opposite side. The exasperation of the patient's sufferings is then caused by the stretching of the inflamed broad ligament. If both ovaries are inflamed, slight lateral movements, communicated to the uterus by its neck, will greatly increase the pain felt in the ovarian regions. More direct evidence may, however, be obtained by a rectal exploration, for then the finger reaches the ovaries, and finds them more or less painful on pressure, which is not the case when these organs are in their healthy state. They are found to vary from twice to four times their original size.

"The most painful sufferings are produced by the descent of the ovarian swelling, of about the size of a small apple, into the recto-vaginal cul-de-sac, thus impeding defecation, or bearing down the uterus, so as to produce its complete retroversion. Such cases have been noted by Boivin, Denman, M'Intosh, and Dr. Rigby.

"General symptoms are sometimes absent, but in the more acute cases the local signs of inflammation are accompanied by slight fever at night, thirst, and a furred tongue, nausea, and sickness."

The description of the symptoms of the puerperal variety of subacute ovaritis Dr. Tilt quotes from the paper of Dr. Doherty. After perhaps an easy labour, and when convalescence has proceeded uninterruptedly for some days or even weeks, the female, after being exposed to the influence of cold, is seized with shivering, succeeded by hot skin, quick pulse, and a dull weight about the pelvis. The febrile symptoms disappear after a few hours, and the uneasy sensation about the lower part of the abdomen is insufficient to excite any apprehension in the mind of the patient, and thus a considerable space of time may pass over. Febrile paroxysms, however, recur at intervals, and, finally, becoming more frequent, while stiffness and pain are felt on moving the leg of the affected side, advice is again applied for.

"By a careful examination," remarks Dr. T., "the local disorders already described will be detected; but the ovarian congestion will be more considerable than in the idiopathic variety, and will be accompanied by considerable seropurulent infiltration of the adjoining cellular tissue, and even of the vagina, which gives to the finger the sensation of a dense brawny substance, particularly in its anterior curve."

The author next proceeds to consider the different accessory symptoms, by which, in different women, subacute ovaritis may be attended, according as the inflamed ovaries react on a womb more or less excitable, on a nervous system differently prone to respond to irritation, or on fluids, more or less, or differently, vitiated by the unknown cause of scrofula, &c. This is done under the heads of the amenorrhœal, dysmenorrhœal, menorrhagic, and hysterical types of ovaritis.

We cannot follow the author in his interesting remarks in reference to each of these forms of the disease. Though concise, they are appropriate and highly plausible. The views advanced by him cast a new, and, we believe, a very important light upon the pathology of many of the diseases of the sexual organs in the female.

It can scarcely be doubted that ovaritis, particularly in its subacute form, is of more frequent occurrence than is generally suspected; that to it are to be referred, in numerous instances, the derangements of the menstrual function, is susceptible, we think, of very strong proof, derived as well from the received views of the physiological functions of the ovaries as from facts based upon an analysis of the history and symptoms of the cases in which the menstrual flux is deficient, painful, or in excess, and from the lesions discovered in the ovaries after death. Much of the uneasy sensations and sufferings in females which are attributed to disease of the womb, and which are, in vain, attempted to be relieved by remedial measures directed solely to that organ, are unquestionably the results of ovarian inflammation, and are to be removed only by means calculated to cure the latter. Dr. T. deserves the thanks of the profession for directing its attention, by the preparation of the work before us, to the importance of ovarian pathology and the necessity of its more complete investigation.

As terminations of subacute ovaritis, are enumerated 1st, sterility—which it produces, according to our author, by accelerating the shedding of imperfectly developed ova; or by causing the retention of blighted ova, in consequence of their transmission from the ovaries to the uterus being impeded by a blocking up of the Fallopian tubes with mucus; 2dly, uterine inflammation.

"The powerful influence of subacute ovaritis as a great cause of congestion and hardening of the womb has been shown by Drs. Oldham and Rigby. Under this influence," remarks Dr. T., "the uterine surface secretes membranes which, when compared with those cast off in cases of abortion, are found identical; but this is not all, for the texture of the womb becomes altered. In recent congestion, the posterior wall feels soft, compressible, and painful to the touch; but, after repeated engorgements, the tissue becomes harder, more solid, very much like the tissue of an *erectile* tumour, or that of a fibrous growth. Thus enlarged, the womb becomes liable to retroversion, and sometimes even, when the womb is thus displaced, it excites inflammation in the neighbouring peritoneum; false membranes are then formed which fix the womb, and an irreducible retroversion is the result.

"That ovarian irritation may determine the engorgement of the neck of the womb is proved by a case lately published by Professor Récamier (*Gaz. des Hôpitaux*, Feb. 22, 1850)."

In proceeding to lay down the treatment proper in cases of subacute ovaritis, Dr. T. cautions against any attempt to remove the disease by active remedies administered during the exacerbation produced by menstruation. The time for their administration is during the intervals between successive epochs. Leeches are recommended over the ovarian region, as much as possible at the seat of pain. They should be sufficient in number to make a decided effect on the local inflammation, and should be followed immediately by hot poultices or fomentations. The number and repetition of the leeches must be left to the discretion of the medical attendant. Dr. T. objects to the application of leeches to the os uteri or to that portion of the rectum which covers the ovaries.

Purgatives are useful both to counteract all tendency to inflammation and to remove from the vicinity of the ovaria any causes of mechanical irritation, as retained fæces, morbid intestinal secretions, &c. The saline and oleaginous articles are preferred; irritating and drastic purgatives are counter-indicated, excepting in certain cases of the amenorrhœal type.

Enemata composed of 15 ounces of aqua camphora, of 6 drachms of aqua lauri cerasi, with sometimes the addition of 3 drachms of the tinctura hyoscyami, Dr. T. considers as most valuable addenda to the preceding remedial measures. He sometimes substitutes the tincture of belladonna or of opium for that of hyoscyamus.

"With respect to this administration of injections," says Dr. T., "the bowels having been previously opened, or else an injection of water having been made, four or five ounces of the tepid enema should be injected slowly into the rectum, the patient being told to retain it as long as possible, and lying on her back, so that the pelvis may be somewhat higher than the rest of the body. This injection should be repeated three or four times a day; and when we consider that the liquid injected is separated from the inflamed ovaries only by a thin elastic and highly absorbent membrane, it will not be difficult to understand that enemata, thus carefully given, are productive of the greatest advantage. When the patient is cured, the medicated enemata should be discontinued, and replaced by cold water, to be likewise injected into the rectum morning and night. By cold water, we mean that which has stood in an inhabited room, and which, when introduced, gives an impression of cold, without chilling the patient. We do not know of any means better calculated to reduce the exaggerated ovarian irritation; and, while treating of this subject, we may remark on the powerful effect of cold water enemata in arresting a tendency to hysterical seizures, and in suddenly removing them where they already exist."

"Vaginal injections are also useful. We agree with Cullerier, sen., and with Lisfranc, in ascribing no great utility to narcotic vaginal injections, which rather irritate the tissues than subdue their inflammation. They are, however, useful in the hysterical type, as stated by Brière de Boismont."

When the leech bites are healed, Dr. T. directs blisters, of four or five inches in length by three in breadth, and carefully camphorated to prevent dysuria, to be applied over the ovarian regions. The epidermis is not to be removed, and the irritated surface should be healed as soon as possible. The antimonial ointment, as recommended by Dr. Rigby, is also beneficial when applied over the same region.

Mercurial frictions have been recommended by M. Boivin in cases attended with inflammatory adhesions of the broad ligaments, dysmenorrhœa, pains, constipation, and tendency to abortion. Dr. Granville has also cured the tendency to miscarriage resulting from ovarian irritation, by combining the internal use of castor oil with mercurial frictions. Dr. T. has derived increased benefit from mercurial frictions by combining with the ointment extract of hyoscyamus, belladonna, and opium, in the proportion of a drachm of the ex-

tracts to an ounce of the ointment. He is also in the habit of combining camphor with the mercurial ointment.

While Dr. T. objects to the inunction of iodine ointment to the roof of the vagina, as practiced by Dr. Kennedy, he states that he has sometimes derived advantage from the medicated pessaries recommended by Dr. Simpson. The following formula may be employed: Extract of belladonna, 2 drachms; camphor, 10 grains; yellow wax, 1½ drachm; lard, 6 drachms,—or strong mercurial ointment, 2 drachms; extract of belladonna, 1 drachm; yellow wax, 2 drachms; lard, an ounce. In some cases, iodide of potassium 1 drachm, or acetate of lead 2 drachms, for each pessary, may be found beneficial.

In cases occurring in females of a nervoso-sanguine temperament, baths of water sufficiently warm not to chill the patient are a useful remedy. The proper temperature of the bath should be maintained by the constant renewal of the warm water, so that the patient may remain immersed for at least an hour.

It is important that, at first, the patient be confined strictly to a horizontal position, and subsequently for two or three hours in the middle of the day.

"It is necessary to say that the general treatment of the patient should be such as will invigorate the constitution, without increasing the local irritation, and the determination of blood to the pelvic organs. The protection of the feet from damp is of course a point of great importance; but what is of still more consequence, in a fitful climate, is effectually to protect the pelvic organs by drawers."

If the patient be married, sexual indulgence must be abstained from so long as there are any signs of ovarian inflammation, and afterwards permitted only in moderation.

In the puerperal variety of subacute ovaritis, the above treatment should be enforced with greater care, on account of the liability of the patient to more serious local disorder. Dr. T. does not approve of the recommendation to remove the child from the breast. Keeping up the action of the mammary glands he believes to be preferable to its arrest.

We pass over the short but pertinent remarks of our author in relation to the treatment of the amenorrhœal, dysmenorrhœal, menorrhagic, and hysteric types of subacute ovaritis. In speaking of sterility resulting from obstruction of the Fallopian tubes by mucus, Dr. T. condemns the proposition that has been made by Dr. Tyler Smith for deobstructing these tubes by an instrument to be passed into them at their openings into the uterus and carried onwards to their fimbriated extremities.

Acute ovaritis Dr. T. defines as follows:—

"Considerable swelling of the ovaria, and the surrounding cellular tissue, with formation of pus, its elimination or absorption."

"If the inflammatory process has been sufficiently intense, or has not been actively treated, the ovaria in the course of a few days swell to a considerable bulk," "and contain pus, either infiltrated in the tissue of the organ, or disseminated in its various parts. These purulent deposits scattered through the ovaries have been described by Negrier, and considered as inflamed Graafian cells, filled with pus of their own secreting." "These small cavities may communicate, or the central part of the ovary may be broken down, nothing being left but the ovarian shell filled with pus." "These collections of pus, if not artificially opened, have a tendency to empty themselves into the neighbouring organs, when they will be found to communicate, by fistulous passages, with various parts of the intestinal canal, with the bladder, or with the vagina, or to open into the peritoneal cavity. T. Bonnet, Shenkius, Merat, and Dr. Seymour have related cases wherein the ovaries were found to be in a state of

gangrene. We must remark that, in these acute cases of inflammation, the adjacent cellular tissue is also inflamed, and that this adds considerably to the size of the tumour, and to the extent of its suppuration; indeed, some authors think that pelvic tumours originate principally in the pelvic cellular tissue. The ovarian peritoneum is also implicated in the general inflammation. It is covered with false membranes, causing it to adhere to the neighbouring organs; and these adhesions, if the patient survive, are transformed into those solid bands which interfere with the play of the pelvic viscera, and frequently cause abortion.

"The coincidence of abscesses in the ovary and the corresponding oviduct was noticed by Morgagni, and afterwards by Andral, Dalmas, and Haaze." "Cruveilhier found both the ovary and the corresponding Fallopian tube distended with pus, the tube being adherent, and the ovary so softened in the vicinity of the adhesion that it would soon have allowed its contents to pass through the tube to the uterus."

"Pus may be found in the ovarian veins, though not so frequently as in the uterine. Cruveilhier considers the lymphatics to be more commonly distended with the pus they have absorbed." "These vessels have been sometimes mistaken for veins; but, when the pus is removed from the lymphatics, those structures appear perfectly healthy; whereas, when the veins are inflamed, their tissues are thickened, have become more fragile, and are lined with false membranes.

"The size of the tumour is often more considerable, and the stroma loses all trace of organization, being more or less changed into a milky, sero-purulent magma, or into a grayish sanious matter, or a vascular pulp, which is almost diffluent, and approaches very nearly to the condition of gangrenous decomposition, since it indicates the total disorganization of the ovarian tissue. In some cases of puerperal metro-peritonitis, Cruveilhier, Boivin, Dugès, Seymour, and Dr. R. Lee have found, on post-mortem examination, the different ovaries ruptured, without it being possible to ascribe the rupture to any violent traction; and the shreds of the organ, being mingled with pus and peritoneal effusion, have, no doubt, been described as the result of gangrene by the older authors."

"Another important pathological distinction between puerperal and idiopathic ovaritis is that in the latter the adjacent peritoneum is frequently not inflamed, and may for years form an efficacious boundary to ovarian disorders; but in the puerperal variety, as might have been presupposed, the ovarian peritoneum soon participates in, and often even originates, the disease."

Acute ovaritis is produced by the same causes as the subacute form, acting with more intensity or continuity, or on a constitution more susceptible to their influence.

The symptoms of acute ovaritis are pain increased by all movements of the body, but especially, by extension of the limb of the side affected. The pain is sometimes most acute. In a case mentioned by Dr. Ashwell, it was so intense that syncope was induced by the patient rising in bed to pass her urine. The pain may be either heavy and dragging, pulsating, or accompanied by a feeling as if a foreign body were boring its way through the vulva. If the ovarian region be examined, we can often see a tumour distinctly pointing from the side of the pelvis. There is an increase in the natural heat of the surface, of which the patient is herself frequently aware. Pressure increases the pain, and the extent of the tumour may, in some cases, be more or less distinctly felt; a sense of uneasiness or numbness in the limb on the same side as the tumour may also be present.

By a vaginal exploration, this passage will be found hotter than usual, dry, and not lubricated by mucus. The upper curve will sometimes be infiltrated, giving to the finger the sensation imparted by brawn.

"When the tumour is small, it generally subsides between the uterus and the rectum, or between the former organ and the bladder, and, in some rare cases,

not only presses on these organs, but actually forces down the fundus uteri, causing prolapsus of the viscus. In a case recorded by Mr. Jackson, the tumour was situated behind the rectum, which was consequently pushed forwards. If the tumour develop itself behind the uterus, it may press it against and above the pubis, thus producing, by its continued pressure, abnormal deviations, and atrophy of the womb; when the tumour has increased, and is no longer entirely in the vicinity of the vagina, having ascended towards the brim of the pelvis, valuable information respecting its position and nature may still be afforded by the finger, even though it cannot reach the seat of the disease. Thus, the tumour may depress the uterus to the right or to the left, or may flatten it against the pubis, causing its complete retroversion, and also rendering it impossible for the finger to attain the os uteri." "This cannot take place without elongating the vagina and urethra, altering their form and direction, and interfering with their functions; copulation may be impossible, the egress of the menstrual flux difficult; and, in a case related by Dugès, the pressure of a large tumour was such as to cause the total obliteration of the vagina. For similar reasons, micturition may be greatly impeded, and there are patients who can only pass water on reclining the body as much backward as possible. In some cases (Boivin, Laugier), it is necessary to depress the tumour, in order to pass the catheter; in others, a male catheter only can be made to penetrate into the bladder; and there are also cases where it is impossible to introduce this instrument at all. Sometimes we can only just feel the inferior segment of the uterus, and then we find that its usual mobility has been checked, or that it is bound down by the thickening and infiltration of the adjacent inflamed tissues, and thus rendered immovable in the pelvis.

"If the tumour has been allowed to increase, and if it has contracted adhesions with the uterus, it will, on rising above the brim of the pelvis, draw the uterus after it. In such cases, which are not of frequent occurrence, the impossibility of feeling the neck of the womb is easily explained."

Dr. T. remarks that, by a rectal examination, the conclusions of the previous inquiry will be confirmed, and thus, by the double touch, we have the means of establishing an accurate diagnosis of these often difficult cases.

"In the commencement of acute ovaritis, the dysuria is only sympathetic; but when the tumour has increased in size, should it fall between the bladder and the uterus, it may, as in the incipent stage of ovarian cysts, give rise to a most painful symptom, viz: the desire of passing water every minute. If the ovarian tumour becomes still larger, and occupies the pelvic cavity, the bladder will be diminished in size, and its fundus is generally pushed forward and above the pubes, when the catheter will not pass freely through the elongated urethra. After this explanation, it will not be difficult to understand, that the sudden suppression of the jet of urine when the patient bends forward, and its free flow when she throws herself backward, are indications of a pelvic tumour."

If the urine contain pus, it will throw some light on the case.

"In the early stages of idiopathic ovaritis, nausea, sickness, and sometimes constipation, are frequent accompaniments, depending, at first, on the irritation of the visceral peritoneum, and the temporary paralysis of the muscular coat of the intestines. When, however, the tumour has increased, and rests on the rectum, the patient is troubled by a more constant constipation, and by tenesmus. The pressure on the rectum is sometimes so great that the fæces are moulded into the form of a riband. If the tumour increases still more, it rises above the brim of the pelvis, and then the lower intestine is no longer compressed to the same degree. It is incumbent on the medical attendant to examine the fæces, as, by the appearance they may present, and the pus they may contain, important elements of diagnosis may be obtained."

"The general symptoms of acute ovaritis are, in the first stage of the complaint, similar to those which announce the process of suppuration in any deeply seated organ, such as shiverings, followed by fever of a remittent or continued

type, particularly when the symptoms of ovaritis merge into the more marked phenomena of acute peritonitis. In the worst cases, abundant perspirations, violent thirst, disordered stomach, delirium, coma, and complete insensibility to all pain, close the scene. Frequently, however, the patient amends, and the ovarian swelling diminishes; but, on account of the periodical turgescence of the ovaries, relapses occur; or else the inflammatory type lowers, and chronic ovaritis, or what we have called subacute ovaritis, is established."

It may then last for years, giving rise to menstrual derangements, or to leucorrhœa, consequent on the permanent congestion of the whole generative system.

Tubal inflammation is not to be distinguished by any peculiar symptoms from acute ovaritis.

The symptoms of the *puerperal* form of ovaritis are nearly the same as those already described. There is sometimes diminution or suppression of the lochial discharge; at other times, the lochial discharge, as well as the flow of milk, continues for several days after the appearance of fever. The pain is less intense, but there is a greater amount of swelling and of peritoneal inflammation, by the extension of which all the symptoms of puerperal fever are developed, and the local disease is, in this manner, effectually masked.

Blennorrhagic ovaritis is of rare occurrence. It is produced by the extension of inflammation by the Fallopian tubes, or by the direct application, through these tubes, of the blennorrhagic pus to the ovaries.

Rheumatic ovaritis is also of very rare occurrence. It is said to occur during the last months of gestation, during labour, and in the puerperal state, in consequence of the action of cold air on the excessively expanded, and often unprotected, parietes of the abdomen. In addition to the usual symptoms of the disease, it is sometimes attended by violent paroxysms of pain, and profuse perspirations.

Acute ovaritis may be confounded with metritis. This error is the more liable to occur from the fact that the one disease is often the result of the other. In metritis, however, there are more fever and sickness, and the tumour can generally be detected above the pubis. The pain is more constant, lancinating, and circumscribed, than in ovaritis. From puerperal hypertrophy of the womb, the diagnosis of acute ovaritis is still more difficult. It may be confounded also with cæco-iliac abscess; with feculent accumulations in the cæcum and sigmoid flexure of the colon; with simple abscess of the pelvic walls. The disease of the ovaries may also be obscured by the occurrence of inflammation of the fossa iliaca, or phlegmasia dolens. The diagnosis is to be made out by a careful attention to the history of the case, and manual examination by the vagina, rectum, and the double touch.

Acute ovaritis may terminate by resolution, or by elimination, when the abscess may open externally, generally in one of the iliac regions; or it may open in the vagina, in the intestines, in the bladder, or into the peritoneum, giving rise to peritoneal inflammation.

The treatment of acute ovaritis, as laid down by Dr. T., differs, at the outset of the disease, but little from that directed in the subacute form; though it will be necessary to carry out some of the curative measures with greater energy. From fifteen to twenty leeches are to be applied over the seat of the disease, and repeated, if necessary, after a short interval. When the bleeding from the leech bites has ceased, Dr. T. directs the ovarian region to be anointed with two drachms of the compound mercurial ointment, covering immediately the part anointed with a large linseed poultice. At the same time, he administers internally two or three grains of calomel, with or without the tenth of a grain of opium, every second or third hour. Blisters

in the early stage of the disease are inadmissible. Medicated clysters, as recommended in the subacute form, would be advantageous could they be administered without increasing, by the movement of the patient, her sufferings.

When there exists an inflammatory ovarian tumour with no manifest opening outwardly or inwardly, we may try the effects of the ointment recommended Jahn; 2 ounces of ung. hydrarg. combined with 3 drachms of potass. iodid. Dr. Rigby has used the tartar emetic ointment, rubbed into the inguinal regions, so as to produce sloughing. Horst gave, internally, sal. ammon. 1 ounce, tart. stib. 1 gr., decoct. taraxaci, 1 pint; a cupful every hour. Sadler applied a moxa over the ovarian tumour, and repeated it in five days after. Although cases are related in which each of these measures is said to have effected a resolution of the ovarian abscess, still we are to view this as a result of rare occurrence.

The most approved practice is for the surgeon, so soon as fluctuation becomes manifest, to open the ovarian abscesses at the place where they point, and whence, consequently, the pus can easily flow. By this procedure, the patient is immediately relieved from the pain arising from the inflammatory distension of the cavity, and from many other dangers, and she has a better chance of recovery.

The vaginal opening of the abscess—the most desirable; the rectal opening—which Dr. T. condemns; the opening through the parietes of the abdomen, are separately discussed, and the modes of procedure carefully described. For much valuable information on these important topics we must refer to the work itself. An analysis of the sections devoted to a consideration of the treatment of pelvic abscesses by incision would be useless, and we have already extended our quotations from the preceding chapters of the work to too great a length to permit us to present those sections entire.

Dr. T. concludes his treatise with the following practical deductions from his previous inquiries, as expressing truths in regard to diseases that are as frequent as they have been hitherto little understood.

"1. That amenorrhœa is often the result of subacute ovaritis, sometimes the result of the uterine engorgement which it determines.

"2. That dysmenorrhœa is often the result of morbid ovulation, and often a symptom of ovarian peritonitis. That frequently, subacute ovaritis, by determining the inflammatory swelling of the neck of the womb, is a mediate cause of dysmenorrhœa; the painful symptoms being, in many instances, produced by the partial closure of the neck of the womb, and the consequent effusion of menstrual secretion into the peritoneum.

"3. That, in many cases of menorrhagia, it is subacute ovaritis, which, by some unexplained process, disposes the engorged uterus to let the vital fluid run to waste.

"4. That subacute ovaritis, by inducing cerebro-spinal reflex action, in certain predisposed subjects, is the most probable cause of hysteria."

We have endeavoured, as far as possible, to present to our readers, from the details furnished by Dr. Tilt, the history of the symptoms and pathological anatomy of the two more prominent forms of ovarian inflammation, in order that their attention may be directed to the further investigation of diseases of daily occurrence, that have heretofore too much escaped the attention of the practitioner. The inconvenience and sufferings to which these diseases give rise have been most commonly ascribed to a morbid condition of the womb, of the exact character of which few appear to have any very precise idea. The neglect with which the pathology of the ovaries has been heretofore treated appears to be, in some degree, owing to the fact that the inflammatory

conditions of these organs are often secondary to disease of the uterus, while in a still greater number of cases they give rise to affections of the latter organ, by the prominence and ready diagnosis of which the primary disease is in a measure masked. But the chief cause of our little acquaintance with ovarian disease—especially the subacute form of ovaritis—has been the utter neglect of manual exploration in its investigation. In our opinion, the work of Dr. T. is one calculated to do much good. By collecting, and arranging in a systematic form, the facts and observations in relation to the affections of which he treats, that are scattered through the records of our profession, he deserves our thanks. And by the additional observations he has furnished, and the views he has advanced—even although we may not be able to coincide in the correctness of all of them—he has unquestionably prepared the way for a more accurate acquaintance with ovarian pathology, and a more rational management of some of the most distressing and heretofore unmanageable of the diseases of the reproductive organs in the female.

D. F. C.

BIBLIOGRAPHICAL NOTICES.

ART. XIV.—*Surgical Anatomy.* By JOSEPH MACLISE, Surgeon. With colored plates. Part third. Philadelphia: Lea & Blanchard, 1850.

THE subscribers to this excellent work, and others interested in the study of surgical anatomy, will be pleased at the prompt republication of another number. It abounds in excellent drawings, as do its predecessors, and the commentary displays the same characteristics as those, viz., truthful descriptions simply unfolded.

The subject of hernia continues to occupy the author's attention in the present number, commencing where the preceding part closed, *i. e.*, with the fifth, sixth, seventh, and eighth layers of the inguinal region, and their connection with those of the thigh. The points which he chiefly dwells upon in the first chapter are, the true constitution of the cremaster muscle, and the formation of the inguinal canal.

"The dissection of the oblique or external and the direct or internal inguinal hernia" forms the subject of the author's comments on the 32d, 33d, and 34th plates. In this chapter, the grounds for the usually received nomenclature of the varieties of inguinal hernia are explained. From the relation of the protrusion to the epigastric vessels come its designations as "*internal*" and "*external.*" The oblique direction of the inguinal canal gives to the hernia which traverses the latter the term "*oblique;*" this accident is also called "*indirect,*" from the indirect route by which the bowel at length reaches the external ring; while the "*direct*" hernia forces its way through this opening, on the inner side of the epigastric artery, without previously passing the internal ring. Again, the hernia is said to be "*incomplete*" when it does not manifest itself externally, being still lodged in the canal; it is called "*complete,*" on the contrary, when it presents itself as a tumour outside of the external ring, and "*scrotal*" when it has fairly descended into the scrotum. In commenting upon these forms of the same accident, Mr. Maclise points out distinctly the relative situations of the hernial mass, the epigastric vessels, and the spermatic cord—questions of great practical importance, as every one knows—and explains how the accident occurs more frequently in the male than in the female.

In connection with plates 35, 36, 37, and 38 is a chapter on the distinctive diagnosis between external and internal inguinal hernia, the taxis, the seat of stricture, and the operation. The author's observations on each of these points are interesting and sensible.

It is important, on many accounts, and a source of self-satisfaction, that the surgeon shall be able to distinguish the particular variety of inguinal hernia with which he has to contend, whether it be necessary to use the knife or not. And yet the characteristics of the different forms of inguinal hernia are more or less interchangeable, so that the term direct or oblique may not strictly apply to a particular case. "The nearer the one approaches the usual place of the other, the more likely are they to be mistaken the one for the other. An *internal* hernia may enter the inguinal canal and become oblique, while an *external* hernia, though occupying the canal, may become direct." Moreover, both forms of inguinal hernia may coexist at the same time and on the same side. And, again, a plurality of the same kind of hernia is sometimes met with upon one side. Sir Astley Cooper mentions such instances. In such cases as these, in which the ordinary condition of things is more or less widely departed from, the surgeon must mainly depend for a true diagnosis upon the relative situa-

tion of the spermatic cord and the testicle, and the epigastric artery to the hernial tumour. Mr. Maclise's remarks concerning such a difficulty may be consulted with advantage.

With reference to the seat of the stricture in inguinal hernia, his comments are quite full. In the case of an *external* inguinal protrusion, the difficulty may exist, he says, at the internal ring corresponding to the neck of the sac, or at the external ring. At these points, the stricture, though firm, is of a passive character, inasmuch as these apertures are devoid of any capability of exerting an active force upon the bowel; but between these points "the lower parts of the transversalis and internal oblique muscles embrace the herniary sac, and are known at times to be the cause of its active strangulation or spasm." The seat of stricture of an *internal* hernia may be either at the neck of its sac or at the external ring; but the nature of the strangulation will vary, he says, according to the locality at which the bowel enters the inguinal wall, whether it pass through a cleft in the conjoined tendon, or on the outer margin of this tendon, or close to the epigastric artery. When the stricture, in either variety of hernia, is at the neck of the sac, the cause of the strangulation does not originate in the sac itself, but is due to forces resident in the structures about the sac, *e. g.*, to pressure, or other sources of irritation, which may compress the walls of the sac, or, by occasioning inflammation and consequent plastic effusion, diminish its capacity at the expense of the bowel, and produce adhesion between the two.

Respecting the direction in which the incision should be made through the stricture when this is at the neck of the sac, Mr. Maclise maintains, after acknowledging Sir A. Cooper's suggestion that the incision be made directly upwards, "that an incision carried *obliquely upwards* towards the umbilicus would be much more likely to avoid the epigastric artery through all its varying relations."

The next chapter is entitled "Demonstrations of the nature of congenital and infantile inguinal hernia, and of hydrocele." The commentary is illustrated by nine drawings. It forms an essential part of the subject of hernia. Commencing with the original situation of the testicle just below the kidney, and tracing it down into the scrotum, the author shows, from anatomical considerations, how the descent of the bowel is possible or probable, or even unavoidable; how such an accident is guarded against by nature, and, if it should occur, the different forms which it may assume. Hydrocele is also treated of in the same manner. In both affections, the surgical anatomy of the parts concerned is very clearly described.

Following this, we have a number of very neat drawings, exhibiting "the origin and progress of inguinal hernia in general," forming with the commentary an exposition of the mode in which protrusion of the bowel takes place, not only in the most ordinary forms, but in those which are unusual, and which, consequently, are apt to be least understood. Amongst the variations referred to are those instances in which the peritoneum, closing the internal ring, is sometimes ruptured by the descending bowel, sometimes merely pouched before it; in which the serous canal, immediately enclosing the spermatic cord, or the round ligament, remains pervious, thus admitting the gut to enter and traverse it through the whole or a part of its length, constituting "the congenital inguinal hernia;" in which a sort of subsidiary serous spermatic tube exists, "the canal of Nuck," being, as it were, a duplicature of the true serous investment of the cord, and receiving into its open mouth the descending bowel; in which the proper serous tube is closed only at the internal ring, and is afterwards dilated by a hernia which descends and pushes before it a pouch of peritoneum, thus furnishing the bowel with a double serous investment, in which the inguinal canal and cord become multicapsular. In connection with these peculiarities, there must of course be corresponding modifications in the anatomical condition of the parts which are of importance to the operator. These departures are commented upon by Mr. Maclise in a very happy manner.

The subject of inguinal hernia having been thus thoroughly discussed, the author next devotes particular attention to femoral hernia. The first chapter on this topic is entitled "the dissection of femoral hernia, and the seat of stric-

ture." He advances no novelty; but the description which he gives seems to us to be as clear and succinct as it can be made. All confusion and unnecessary multiplication of terms are avoided; and the accompanying drawings are very beautifully executed, and constitute really illustrations of the text and of nature.

But, in order to exhibit more fully, and from many points of view, the subject in question, we are favoured with another chapter, which unfolds the mode of origin and progress of femoral hernia, together with its diagnosis, the taxis, and the operation.

In concluding our cursory notice of the contents of the third part of Mr. Maclise's work, we must again express our satisfaction at the manner in which the author has treated the subject of hernia. His commentary is simple and to the point, and the drawings with which he illustrates nature are exceedingly well designed for his purpose, and many of them are, if we are not mistaken, original with the author. F. W. S.

ART. XV.—*A Treatise on the Pathology, Diagnosis, and Treatment of Neuroma.* By ROBERT W. SMITH, M. D., T. C. D., M. R. I. A. Folio, pp. 30, with plates. Dublin: Hodges and Smith, 1849.

THE pathology of the nervous system is probably more difficult of investigation, as well as less understood, than that of any other branch of special pathology; yet it is not, surely, one of the least important. It is therefore a subject of congratulation, among all who are at all interested in this study, that Mr. Smith has directed his attention to it, since they have a right to entertain the most confident hopes that the patient and well-conducted observations, with the integrity of purpose and of judgment, which have thrown so much light upon other subjects of surgical inquiry, will also elucidate this.

In the British medical journals, and in the reports of the transactions of medical societies in Great Britain, records of cases of neuroma may be found, and valuable essays upon this subject; but we believe that this volume of Mr. Smith is the only monograph on this singular affection in our language. The German and French, however, have been more prolific. Mr. Smith's book is the result of his own personal investigations of cases of the disease, and of a careful examination of the contributions of others, of which he gives an elaborate enumeration.

The term *Neuroma* seems to have been introduced into medical nomenclature by M. Odier, of Geneva, in the year 1803, and signifies a tumour connected with a nerve. In his discussion of the subject, Mr. Smith arranges neuromatous tumours in two classes: first, those which are idiopathic; and, secondly, those which are the result of wounds or other injuries of nerves. "Among the latter, may be included the tumours which form upon the extremities of nerves divided in amputations. In the *idiopathic* variety of the disease, there is, in general, but a single tumour, which, whether it be solid or composed of a cyst filled with fluid, is usually painful; but, when several such tumours exist, either upon the same or upon different nerves, they are, in most instances, solid, and free from pain. The *traumatic* varieties of neuroma, whether solid or fluid, are, in almost all cases, the source of severe suffering."

The general characters and symptoms of neuroma, of both varieties, are detailed at considerable length. The *idiopathic* neuromata are described as oval or oblong in shape, having their long axis in the direction of the nerve to which they are connected. In size, they vary from that of a pin's head to that of a melon, or even larger than this. There may be either one or many on the same nervous trunk; and they sometimes exist simultaneously on all the spinal nerves. They are rarely met with in the ganglionic system. "They are generally solid throughout; but, in some instances, they are composed of a cyst filled with fluid. They are of slow growth, but continue steadily to enlarge, although years may elapse before they attain such a size as to make them the source of inconvenience. They are movable in the transverse direction, but

not in the course of the trunk of the nerve upon which they are seated. Even when they have reached a very considerable size, they do not contract any adhesion to the investing integument, unless, from their situation, they are exposed to continued pressure. The skin is not discoloured, nor, unless the tumour be of unusual magnitude, do we ever see tortuous and dilated veins ramifying beneath it. They are not prone to attacks of inflammation, nor have I ever seen them suppurate, or known their removal by absorption. Descot, however, states that in one instance both the pain and the tumour disappeared spontaneously."

The pain of which the tumour is the seat is the most important feature. When the tumours are very numerous, they are not generally the source of much uneasiness to the patient; but the solitary neuroma is usually excessively painful. In some instances, there is little inconvenience while the parts are at rest, and the tumour not touched or pressed upon, or at most there is a sense of tingling or pricking running along the course of the nerve or its branches. In other cases, the pain is continued; but, in addition, the tumour is subject to paroxysms of anguish, occurring as a consequence of pressure or other mechanical irritation, or independently of such cause. During the exacerbations, the tumour seems to be in a state of erethism, and is exquisitely sensitive. Many observers contend that pressure upon the nerve above the tumour arrests the pain; and Mr. Smith calls attention to the fact that, in this variety of neuroma, the pain is generally limited to the parts below the tumour. Many cases are on record which show that general epileptic convulsions have been finally and completely arrested by the removal of neuromatous tumours which seemed to have been the starting-points of the disturbing influence; and, in connection with these observations, the advice of Dr. Craigie should be borne in mind by the practitioner, viz., to examine carefully the part from which the "*epileptic aura*" proceeds, as it may be the seat of a neuroma the removal of which may cure the disease. (*Edinburgh Medical and Surgical Journal*, xxix. p. 357.)

It has been supposed by many pathologists, by Bayle amongst others, that the neuroma is a cancerous growth. With reference to this interesting point, we will quote the following considerations, which induce Mr. Smith to agree with those who maintain the opposite opinion: "1. To whatever size the tumour may attain, or however long it may have existed, we do not find that it affects the surrounding tissues otherwise than by its pressure. It never converts them into a texture similar to itself. The form alone of the nervous trunk with which it is connected is altered, its component fibres being separated from each other and flattened. It contracts no intimate adhesions either to the contiguous textures or to the integuments, which can be freely moved even over the largest tumours; nor does it affect the lymphatic glands, either in the vicinity or at a distance.

"2. It does not exert that specific and destructive influence upon the constitution which forms so remarkable and so constant a feature in the history of cancer. It is true that the general health of the patient is frequently impaired; but this is to be ascribed, in such cases, to the continued suffering which he endures, and not to any specific reaction upon his system.

"3. The disease does not recur, after the removal of the tumour, either in the part originally affected or elsewhere. Whether the tumour, when of spontaneous origin, has been extirpated, or the operation of amputation been performed, the patient has been in every instance permanently relieved from suffering. How different is this result from the melancholy consequences of operations undertaken for the cure of malignant disease.

"4. The character of the pain which accompanies neuroma is totally different from that which characterizes cancer.

"5. The structure of neuroma, as revealed by the microscope, presents none of the characters which are supposed by modern pathologists to be diagnostic of malignant disease."

Concerning the etiology of the affection, the author says, "With the exception of the traumatic forms of the disease, I fear it must be confessed that we know nothing with certainty regarding the causes of neuroma. It may, in some instances, result from inflammation, while in others it may be owing to

an exudation of a specific character, the consequence of local congestion or irritation, as supposed by Knoblauch." He does not admit any connection between this disease and the rheumatic diathesis. "There are few affections of more frequent occurrence than rheumatism; few more rare than neuroma."

Mr. Smith describes the *anatomical characters* of neuroma as being very uniform. "The solid, idiopathic neuroma originates either in the cellular structure which connects the neurilemma to the trunk of the nerve, or within one of the smaller sheaths, by which each of the fibres, the aggregate of which constitutes the nervous trunk, is enveloped. In these two cases, the disposition of the nervous fibres upon the surface of the tumour, as also the coverings of the latter, is somewhat different. In the former, where the tumour originates in the neurilemma or its connecting cellular structure, we usually find that the nervous fibres, although flattened and increased in breadth, are not separated from each other so widely as in the latter. Supposing the tumour to be of the same size in each case, they are more confined to one surface of the tumour, generally its deep aspect; but when the neuroma originates in one of the central sheaths, it presses, as it grows, more equally upon the surrounding fibres, which are, in such cases, found more widely dispersed over the surface of the morbid growth. Again, in the latter case, the tumour, when large, is generally invested with a greater number of coverings than in the former. Its immediate capsule is the sheath of the fibre where it has originated. External to this, we find a thin investment, formed by a condensation of the cellular tissue, which connects the general sheath to the trunk of the nerve. This sheath, or external neurilemma, forms the most superficial covering, with the exception, of course, of the subcutaneous cellular texture." The closeness of the connection between these different investing tunics, and the intimacy of the union between the tumour and its immediate envelop, differ very much. The capsule rarely undergoes any degeneration, but is smooth and glistening on both surfaces.

"A section of a neuroma usually discloses an exceedingly dense, homogeneous texture. The surface is smooth, of a grayish-white colour, and frequently the elasticity is such that the cut surface becomes convex. It seldom presents the same shade of colour as the nervous tissue. Its texture is essentially fibrous, or fibro-cellular, but so exceedingly close and dense that the unassisted eye can scarcely ever detect the course or arrangement of the fibres. In the majority of cases, the tumour is solid throughout, and everywhere presents the same appearance and an equal degree of density. Indeed, the uniformity of the aspect of the interior of neuromatous tumours is not one of their least remarkable features."

"When the tumour has attained a very large size (and, according to Mr. Smith, only in such cases), cavities occasionally form in its interior. They vary considerably in their dimensions, do not communicate with one another, and are lined by a distinct shining membrane, which, sometimes villous, is generally smooth. Some contain a serous fluid. In others, the contents resemble rather synovia or albumen, or may present the characters of purulent matter. Others, again, are filled with fibrin; and, finally, some are empty. The lining membrane, generally pale, is sometimes very vascular. But I have never seen, in any of the cavities of neuromatous tumours, fluid or coagulated blood, lardaceous or medullary matter, or any of the substances which are found in malignant tumours; nor have I ever known the neuroma itself, no matter how long it may have existed, or to whatever size it may have attained, assume the external characters or acquire the internal structure of cancerous or encephaloid growths."

"The trunk of the nerve immediately above and below the tumour is normal in appearance, and the intermediate portion is merely altered in form, and thrown out of its natural course; it either passes as a single trunk along the posterior or internal surface of the tumour, or else its separated fibres are dispersed over the surface of the neuroma. In a few instances, I have seen some of the nervous filaments enter the superior extremity of the tumour, although I was unable to trace them through it; but I have not yet met with any example of the passage of the entire trunk of the nerve through the neuroma, as is stated to happen occasionally." The author advises that the tumour and

the attached nerve be macerated in nitric acid before dissection, in order that the tissue may become firmer.

Concerning the diagnosis of this curious affection, the author thus expresses himself: "From what has been stated in the preceding pages respecting the symptoms and characters of painful neuromatous tumours, it is manifest that their diagnosis, although it may be occasionally obscure, is not in general attended with any very serious difficulty. The oval or oblong form of the tumour; its being movable from side to side, but not in the direction of the nerve upon which it is placed, the attempt to move it in the latter direction being productive of severe pain; its freedom from adhesion to the surrounding structures; the healthy condition of the integuments; the extraordinary sensibility of the tumour; the peculiar electric character of the pain, its terrible severity, paroxysmal type, and extension along the trunk and branches of the nerve, constitute a group of symptoms which, in the majority of cases, are sufficient to establish the true nature of the tumour."

The only method of treatment which can be relied on for effecting a permanent cure of the sufferings attendant upon neuromatous tumours is excision of the tumour. "It will therefore be sufficient," says Mr. Smith, "to consider what operation should be performed—should the portion of the nerve with which the tumour is connected be excised along with it?—is it in any case proper to dissect out the tumour from the nervous fibres among which it has grown?—or, finally, may cases occur in which it is justifiable to have recourse to the severe measure of amputation?"

To the first question, much space is devoted, detailing many of the remarkable cases in which both the tumour and a portion of the nerve have been removed, producing perfect cure, with the reacquisition in the parts supplied by the nerve of sensibility or voluntary motion. Mr. Smith calls attention to the fact that there remains, for a longer or shorter period, a peculiar coldness of the parts supplied by the branches of the divided nerve—a coldness felt by the patient and recognizable by others.

The second question is thus remarked upon: "The history of the treatment of neuromatous tumours supplies but few examples in which the second mode of operation to which I have alluded has been adopted. The results have not been very satisfactory, nor have they afforded much encouragement to the practice of dissecting out the tumour from the branches of the nerve, among which it is, as it were, entangled." And again, "It is, in my opinion, an operation which should only be performed when, from the peculiar circumstances of the case, it is impossible to have recourse to any other; for instances may undoubtedly occur in which the size of the tumour would render necessary the removal of so large a part of the principal nerve of the limb that a reasonable fear might be entertained of the occurrence of permanent paralysis or of gangrene (as happened in a case recorded by Swan); and, upon the other hand, the situation of the tumour may be such as to preclude the possibility of having recourse to amputation. Under such circumstances, the surgeon is justified in endeavouring to disengage a large painful neuromatous tumour from the nervous fibrillæ among which it is entangled."

Many cases are recorded in which the operation of amputation has been performed with success.

One section of Mr. Smith's book gives an account at length of the "*General development of neuromatous tumours,*" embracing condensed notices of many cases in which "neuromatous tumours have been developed in almost countless numbers throughout the greater part of the nervous system—not only connected with the deep-seated trunks, but visible on almost every superficial nerve of the body; not limited to the extremities, but likewise involving the nerves of the great cavities; not confined to the cerebro-spinal, but also implicating the grand sympathetic system; not the seat of pain, but, on the contrary, the source of no apparent injury to the patient, unaccompanied by any lesion of innervation, even when such nerves as the vagus and the phrenic are involved from one extremity to the other." He then goes on to trace the histories of many such instances—very wonderful, indeed—but our limits will not permit us to follow him through this detail. Knoblauch is of the opinion that these

tumours are not the results of a morbid process, but of an original vice of conformation—that they are indeed true accessory ganglia. But the cases of the kind which Mr. Smith reports disprove such an idea; for in these the number of the tumours were seen to increase from time to time on the superficial nerves, and their interior structure was identical in those which affected the superficial parts, and in those which involved the nerves of the cavities; and they agree also in this respect with the accounts given by Knoblauch. In none of them could any trace of nervous structure be detected.

The *ganglionic system* of nerves presents occasionally, though much less frequently than the cerebro-spinal, instances of the development of these tumours. But Mr. Smith observes that these enlargements generally consist in an hypertrophy of some of the elements of the ganglia, the fibrous, or the fibro-cellular, or the areolar.

Under the head of *Traumatic Neuroma*, the author embraces "all the varieties of the disease which arise from mechanical causes, such as wounds, blows, pressure, the irritation produced by a foreign body in contact with or lodged in a nerve, &c. In these cases, there is, in general, but one tumour, which is, in almost every instance, the source of severe suffering, the pain not being limited to the parts below the tumour, but frequently also extending along the trunk of the nerve towards its origin. This form of neuroma, when it is a consequence of a wound of the nerve, usually consists of a solid tumour, not invested by the neurilemma, and destitute of any distinct capsule. It is extremely apt to form when the entire of the nervous trunk has not been completely cut across, and in such cases appears to be more than usually painful."

The last point to which Mr. Smith devotes his attention is "*Neuroma succeeding to amputation.*" He thinks that the object of these enlargements, which form upon the extremities of nerves divided in amputation, and which are pretty constantly found, is to protect the nerves; and he thinks they rarely indeed give rise to any inconvenience. If, however, severe pain should be suffered, the tumour may be removed by excision, or, if not otherwise practicable, by amputation of the stump.

The plates connected with the volume are beautifully executed upon stone; they are very large, and present most astonishing illustrations of the numbers and dimensions of this kind of tumour. In every respect, this book must be considered as a very valuable contribution to English medical literature.

F. W. S.

ART. XVI.—*On the Causes, Nature, and Treatment of Palsy and Apoplexy; of the Forms, Seats, Complications, and Morbid Relations of Paralytic and Apoplectic Diseases.* By JAMES COPLAND, M. D., F. R. S., etc. etc. etc. 12mo. pp. 326. Philadelphia: Lea and Blanchard, 1850.

A CONSIDERABLE part of this treatise is, confessedly, a republication from the author's Dictionary of Practical Medicine, while several of the chapters on the connection of paralytic and apoplectic seizures with other disorders formed the Croonian Lectures, for 1846 and 1847, at the Royal College of Physicians. In the present publication, the views of Dr. Copland on the pathology and treatment of apoplexy and palsy are presented in somewhat fuller detail, and in more intimate connection with one another, and with allied topics and related affections. They do not differ, however, from those previously advanced by him. They will be found, with few exceptions, to be based upon established doctrines in regard to the physiology and general pathology of the nervous system, and to be corroborated by the results of recent careful observations and clinical experience.

The order in which the subjects embraced in the treatise before us are considered is, first, the more simple and primary varieties of palsy; next, the uncomplicated forms of apoplexy; afterwards, the complicated states of palsy and apoplexy; their causes; the disorders which often precede them, and the more important points of their pathology; and, lastly, the treatment of their several forms and complications.

Each of these topics is treated with great clearness and ability. There are, indeed, very few works from which the student will acquire more correct and useful knowledge in regard to the causes, nature, symptomatology, and diagnosis of paralysis and apoplexy in their various forms, relations, and associations or complications, or more clear and judicious suggestions in reference to their treatment. The treatise of Dr. Copland is deserving, also, of an attentive perusal on the part of the practitioner, whose investigation into the true character of the cases of paralytic and apoplectic seizures which may fall under his notice, his determination of the indications to be fulfilled in their treatment, and his selection of the remedial agents by which these indications are to be carried into effect, will, we believe, be in no slight degree aided by the views and therapeutical directions presented by the author.

There are several portions of the work to which we should have considered it our duty to direct the especial attention of our reader, had not these, in a somewhat different form, been already for some time in possession of a portion, at least, of the profession, and were we not persuaded that they who feel an interest in them would prefer studying them in their proper connection, now that the treatise is placed within the reach of all by the publication of an American edition. D. F. C.

ART. XVII.—*Der Aderlass in der Lungenentzüngdung, Klinisch und Physiologisch erörtert.* Von DR. JOSEPH DIETL, K. K., Polizeibezirks, und Primararzt des Bezirkskrankenhauses Wieden in Wien. 8vo. pp. 128. Wien, 1848.
The Employment of Blood-letting as a remedy in Pneumonia, Clinically and Physiologically discussed. By JOSEPH DIETL, M. D., etc. etc.

THE memoir of Dr. Dietl is a laboured defence of the treatment of pneumonia solely by diet and rest, without the employment of the lancet, tartar emetic, mercury, blisters, or any other of the active remedies which have generally been considered essential for the arrest of acute inflammation when seated in the proper tissues of the lungs.

The author bases his rejection of blood-letting, and other active remedies, upon the results of his clinical experience, as well as upon the views he entertains of the pathology of pneumonia and of the effects produced by the detraction of blood on the progress and termination of pulmonary inflammation.

Although we cannot assent to all the conclusions to which Dr. D. has arrived, we admit that there is much to interest as well as to instruct in his investigations into the pathology of pneumonia. While we are well convinced that the weight of experience will be found to be adverse to the proscription of the lancet in the treatment of the disease, we believe that many of the views advanced by the author are correct, and capable of an important practical application.

Dr. Dietl presents us with the results of 380 cases of pneumonia, of which 85 were treated by blood-letting, 106 by large doses of tartar emetic, and 189 by diet and rest alone. Of those treated by blood-letting, 17 or 20.4 per cent. died; of those treated by large doses of tartar emetic, 22, or 20.7 per cent.; while of those treated by diet and rest only, 14, or 7.4 per cent., terminated fatally.

The fever continued from 5 to 9 days in 41 of the cases that were bled, and from 14 to 21 days in 27. In those treated with tartar emetic, it continued from 5 to 9 days in 66, and from 14 to 21 days in 18; and in those treated by diet alone, in 140 it continued from 5 to 9 days, and in 35 from 14 to 21 days.

The period of convalescence was from 5 to 21 days in 30 of the cases that were bled, and from 22 to 60 days in 38. In those treated by tartar emetic, it lasted from 5 to 21 days in 62, and from 22 to 60 days in 22; while in those treated by diet alone it lasted from 5 to 21 days in 133, and from 22 to 60 days in 42. Thus, the medium duration of convalescence in the first set of cases was 28.9 days, in the second 20.3, and in the third 19.7.

The entire duration of the disease, from the first appearance of fever to the

complete restoration of the patient, was, in 27 of the cases treated by blood-letting, from 10 to 30 days, and in 41 from 30 to 60 days; in 54 of those treated by large doses of tartar emetic, it was from 10 to 30 days, and in 30 from 30 to 60 days; in those treated by diet alone, it was from 10 to 30 days in 119, and from 30 to 60 days in 56: showing that the medium duration of the disease in the first set of cases was 35 days, in the second 28.9, and in the third 28 days.

In 27 of the cases, the inflammation was seated in both lungs. Of these, 10 were bled, and 4 died; 6 were treated with tartar emetic, and 1 died; and 11 were treated by diet alone, and 2 died.

In 142 of the cases, the inflammation was confined to the right lung, and in 211 it was confined to the left lung; making, in all, 353 cases in which the inflammation was of one lung only. Of these, 75 were bled, and 13 died, or 17.4 per cent.; 100 were treated by tartar emetic, and 21 died, or 21 per cent.; and 178 were treated by diet alone, and 12 died, or 5.1 per cent.

In the stage of red hepatization, 23 died, namely, of those who were bled 5, of those treated with tartar emetic 11, and of those treated by diet 7.

In the stage of gray hepatization, 17 died, namely, of those who were bled 7, of those treated with tartar emetic 7, and of those treated by diet 3.

In the stage of purulent softening, 13 died, namely, of those who were bled 5, of those treated with tartar emetic 4, and of those treated by diet 4.

Of pneumonia without complication of any kind, 9 patients died, namely, of those who were bled 7, and of those treated by tartar emetic 2.

Of pneumonia with complication, 44 died, namely, of those who were bled 10, of those treated with tartar emetic 20, and of those treated by diet alone 14.

So far as the evidence based upon the results of these 380 cases goes, it is decidedly in favour of a purely expectant treatment of pneumonia. It would seem to prove that inflammation of the lungs is a self-limited disease, and all that is necessary to ensure its passing favourably through its several stages, is the withdrawal of those influences calculated to interfere with its regular course, all active treatment being avoided as useless, if not injurious.

The premonitory symptoms of pneumonia — fever and dyspnœa — are of longer continuance in young and robust patients, Dr. D. remarks, and in those attacked for the first time, than in older and more debilitated subjects, and in those who have previously suffered from attacks of the disease. This stage of the disease, he admits, may be shortened by blood-letting.

The hyperæmia of the lungs which precedes the setting in of inflammation has, according to Dr. D., no essential part in the production of the dyspnœa attendant upon pneumonia. Nor is the dyspnœa produced by the obliteration of the air-cells of the lungs from a plastic exudation. In general, the patient breathes more freely after the occurrence of hepatization than before.

Extensive hepatization of the lungs obstructs, it is true, the respiratory movements, without, however, producing to the same extent the anxious sense of dyspnœa by which pneumonia is often attended.

As a general conclusion, Dr. D. conceives it may be established, by the results of careful observation, that the mechanical impediments to respiration which occur in pneumonia are neither the sole nor the essential cause of the dyspnœa.

The primary source, he remarks, of the regular action of the nervous centres, and, consequently, of the normal movements of the respiratory apparatus which are dependent upon the regular and continued influence imparted by those centres, is the exchange of gases in the blood, which takes place in the air-cells of the lungs. Now the moment that pneumonia sets in, the exchange of gases is so far disturbed that the escape of the carbonic acid of the blood, with the acquisition in its stead of an adequate amount of oxygen from the atmospheric air, no longer takes place with its normal regularity.

If we examine the blood in cases of pneumonia, we find that there is an increased amount of its fibrine, and a diminution of its red globules. In consequence of this excessive formation of fibrine as a protoxide, the blood is robbed of a large amount of its oxygen, and from the diminution of its red globules, as the principal carriers of the oxygen, this is not again supplied in proportion to its loss; consequently, in cases of pneumonia, the arterial blood

contains an amount of oxygen inadequate to impart sufficient life-power to the nervous centres.

It is evident, therefore, that it is during the exudation of the fibrinous portion of the blood into the air-cells of the lungs that, in pneumonia, the dyspnœa must be the most intense, as then there occurs the greatest consumption of the oxygen of the blood. The occurrence of dyspnœa in the premonitory stage is easily accounted for from the fact that the dyscrasy of the blood, namely, the deficiency of red globules, has then already commenced.

To the change in the chemical relations of the blocd, therefore, according to Dr. D., the dyspnœa of pneumonia is to be mainly referred.

Blood-letting in pneumonia favours, Dr. D. remarks, the same change in the blood as has been already effected by the inflammation of the lungs; it must, therefore, by increasing the dyscrasy of the blood, rather augment than diminish the dyspnœa. The relief of the dyspnœa, which is observed to occur immediately after venesection, Dr. D. explains by supposing that the removal of a portion of blood by the lancet promotes the determination to and from the lungs, thus causing a larger amount of blood to be driven, in a given time, through the pulmonary capillaries, favouring in this manner its oxidation, and enabling it to impart to the nervous system a greater amount of its appropriate stimulus.

According to our author, in those cases of pneumonia which are left to their own course, there is never to be observed such profuse perspiration as when the disease is treated by blood-letting. Many severe cases pass through their several stages, and the disease finally ceases without any perspiration. Dr. D. adds that in every instance pneumonia terminates favourably, the more speedily and certainly, the less the patient perspires. Perspiration in this disease is always, according to him, an indication of the improper loss of blood or of adynamia, and is never critical.

With the termination of the exudation into the lungs, the frequency of the pulse returns to its natural grade. The acceleration in the action of the heart in pneumonia is caused neither by any mechanical impediment to the circulation nor by any deficiency of blood. It is, according to Dr. D., the result of the same dyscrasis of the blood which results in the exudative process.

The acceleration of the pulse decreases after venesection—even during the flow of the blood; the effect, however, is only temporary. Dr. D. supposes that blood-letting effects this diminution of the action of the heart in the same manner that it diminishes the dyspnœa, namely, by promoting the circulation through the lungs, and the consequent increased oxidation of the blood; consequently, it is only when the vessels of the patient are loaded with blood that the detraction of blood causes this temporary diminution of the morbid activity of the heart.

In pneumonia treated by the lancet, the frequency of the pulse, according to Dr. D., does not cease upon the termination of the exudative stage of the disease, but continues for some time afterwards. In cases of pneumonia left to their own course, there is, he remarks, seldom so violent an action of the heart as in those treated by the lancet. The augmented action of the heart being, in some part, caused by the detraction of blood.

The pulse in pneumonia has a redoubled stroke, but is not so full as in cases of typhus. The suppressed pulse of the older pathologists depends upon a continuance of the normal condition of the arterial coats, and is to be considered, according to Dr. D., as favourable, while the large and redoubled pulse depends upon an abnormal state of the artery, and is an unfavourable indication.

If, after a single or repeated venesection, the pulse becomes more full, and redoubled, it is usual to say it has become more developed and free. But, in these cases, the so called freedom of the pulse is a certain indication of the increased serosity of the blood and of adynamia.

The large redoubled pulse of pneumonia does not, Dr. D. remarks, change so quickly to the small normal pulse in cases treated by the lancet as in those submitted to a dietetic management. He remarks, also, that the thirst is much

more intense in cases where bleeding has been resorted to than in those treated by diet alone.

Dr. D. admits that by blood-letting the sense of exhaustion and muscular debility is more effectually relieved, in cases of pneumonia, than by the expectant method.

In cases of pneumonia left to their own course, the yellow discoloration of the skin, Dr. D. informs us, decreases in a very striking manner upon the termination of the exudative stage, and soon disappears entirely. This discoloration more seldom occurs, he remarks, in cases treated by the expectant method than in those in which blood-letting has been employed. It is always increased by venesection, and in many cases is produced by it.

When the disease is left to its own course, the physiognomy of the patient assumes, Dr. D. assures us, at the termination of the exudative stage, an aspect in the highest degree favourable. This change of physiognomy is not so striking in cases treated by bleeding, as the debility resulting from the loss of blood prevents the patient from enjoying, at so early a period, the sense of returning health.

After the completion of the exudative stage, in cases treated by the expectant method, the appetite of the patient returns, seldom rising to morbid hunger, while in those in which blood-letting has been resorted to, although the appetite returns equally as early, yet it is often excessive.

The short dry cough of pneumonia, Dr. D. ascribes to hyperæsthesia of the lungs, its chief cause being inflammation of the bronchi. Cases, however, occur unattended with cough. It is unquestionably true, he remarks, that a single bleeding will diminish or entirely remove the cough of pneumonia; this it does by removing the hyperæsthesia of the lungs, and the bronchial secretion, in the same manner as it effects a diminution of the dyspnœa.

The expectant method of treatment presents, we are told, no means for the relief of the cough.

The most favourable cases of pneumonia Dr. D. considers to be those attended with but little expectoration.

In cases of pneumonia left to their own course, it is, our author remarks, a very favourable indication, showing the occurrence of a rapid reabsorption of the effusion into the lungs, if, after the exudative stage is completed, expectoration entirely ceases.

When, Dr. D. remarks, on the eighth or ninth day, in cases of extensive pneumonia left to their own course, with a continued slight cough, the patient discharges a clear albuminous fluid, at first consisting of distinct drops, but subsequently becoming more ropy, and now and then intermixed with flocculi of a puriform appearance, it is to be considered as a normal and favourable expectoration.

When pneumonia is treated by venesection, the matters expectorated undergo many changes, the most important of which is the change of the tenacious, clear expectoration into the so-called sputa cocta. These sputa cocta are, according to Dr. D., the result of blood-letting; the degeneration of the exudation in the lungs into pus or puriform cells being favoured by the detraction of blood. The sputa cocta, he remarks, are neither a necessary nor critical discharge.

Among the most favourable cases of pneumonia, Dr. D. classes those in which no sediment occurs in the urine. The less sediment there is in the urine the more rapid, he remarks, is the reabsorption of the fluids effused in the lungs. Sedimentous urine is not an indication of any critical discharge, but is the result of organic decomposition.

Cases of pneumonia, left entirely to their own course, proceed, we are told, through all their stages, to a favourable termination without any sediment in the urine, while, on the contrary, in those treated by the lancet, the urine usually deposits a copious sediment. Sedimentous urine, Dr. D. believes, may be produced by blood-letting.

In cases treated by the detraction of blood, there occurs, our author remarks, a much greater emaciation than in those managed by diet alone.

In the pneumonias left to their own course, the sensation of debility, according to Dr. D., disappears at once upon the termination of the exudative stage, and the patient convalesces very rapidly; in those in which blood-letting has been resorted to, the patient improves at the close of the exudative stage, but his convalescence is protracted, in consequence of the extreme debility to be overcome.

There is no occurrence of chronic pneumonia, says our author, induced by the expectant method of treatment.

According to Dr. D., the hepatization of the lungs, be the exudation more or less extensive, requires for its removal, in the majority of cases, five days, but sometimes seven days.

In most of the cases of quickly healed or arrested pneumonia, Dr. D. believes there takes place a speedy hepatization, the occurrence of which is accelerated by blood-letting; clinical and pathological facts prove, therefore, he remarks, that the exudative stage of pneumonia cannot be prevented by venesection.

The treatment of pneumonia by the lancet, Dr. D. asserts, favours extensive hepatization, and the formation of abundant fibrinous coagula in the cavities of the heart and great vessels.

Dr. D. asserts that severe and extensive pneumonia not unfrequently occurs and proceeds under the use of the lancet. When hepatization has commenced, the abstraction of blood will, he admits, prevent its further progress.

Rapid reabsorption of the effused matter may occur under each plan of treatment, but Dr. D. considers that it occurs most rapidly under the expectant method. It seldom, he adds, takes place promptly in patients who have been weakened by blood-letting.

The reabsorption commences always, we are assured, when the appetite of the patient is restored; unless the patient's appetite returns, reabsorption does not take place.

Absence of the so-called critical discharges is, according to Dr. D., a certain indication of a rapid reabsorption. He remarks that, in a first attack, if the disease be left to itself, its course being undisturbed by active treatment, reabsorption takes place, in general, rapidly and without the occurrence of critical discharges. In many cases, Dr. D. admits that the reabsorption is not impeded by venesection, but by favouring the purulent softening of the hepatized portions of the lungs, blood-letting may indirectly prevent reabsorption.

Pulmonary abscess Dr. D. believes to be an unfrequent metamorphosis of the hepatized lung, and is not produced by either of the methods of treatment.

Induration or partial wasting of the inflamed parenchyma of the lungs appears, the author remarks, to be favoured by the expectant method of treatment.

Gangrene of the lungs he does not admit to be a consequence of intense inflammation; it may occur under either plan of treatment.

Tuberculosis of the lungs is not favoured, according to Dr. D., by one or other method of treatment.

Blood-letting, he remarks, favours in various ways the complication of pneumonia with other acute exudative processes; namely, with meningitis and pericarditis; it also, he asserts, favours the occurrence of atrophy of the lungs and of pleuritis. Dr. D. maintains, that when pneumonia is permitted to take its own course, it terminates most frequently in a favourable manner; that when treated by the lancet its termination, even in the simple uncomplicated cases, is fatal. He infers, therefore, that the detraction of blood ministers directly to the mortality of the disease; which it does by augmenting the morbid condition of the blood. Hence, notwithstanding the speedy and striking relief which is so generally the result of venesection in pneumonia, he denounces it as unnecessary to insure the safety of the patient; while in many cases it is positively prejudicial. The remedy may, he admits, be adapted to abate certain symptoms, but, nevertheless, its employment to this end must be, he thinks, extremely limited, while the indications for its use cannot be laid down with any certainty, and hence the most judicious plan, in his estimation, is to omit it entirely.

The foregoing sketch of the general conclusions of Dr. Dietl, in reference

to the employment of blood-letting in pneumonia, is drawn up chiefly from the one hundred and two aphorisms with which his memoir concludes.

From this sketch it will be perceived that our author is opposed to the use of the lancet in pneumonia, not merely from its being unnecessary to its successful treatment, but in consequence of its exerting a prejudicial influence upon the regular progress and favourable termination of the disease.

Interested as we have been in the perusal of the memoir before us, convinced as we are that many of the views advanced by the author in relation to certain important points in the pathology of pneumonia are founded on correct physiological principles, we nevertheless cannot agree with him in his proscription of the lancet and all active remedies in the treatment of that disease. Notwithstanding the apparent conclusion adverse to the lancet deduced from a comparison of the cases treated by blood-letting, by large doses of tartar emetic, and by diet alone, as presented by the author, we cannot be induced to relinquish a remedy in favour of the decidedly beneficial effects of which we have our own experience, in addition to the concurrent testimony of nearly all the more authoritative of ancient and modern practitioners—a remedy which, *à priori*, we should select as the one especially adapted to the control of the disease. With the late Dr. Gregory, of Edinburgh, we should be willing, in the early period of a case of pneumonia, to dispense with every other therapeutical means rather than with the lancet and water gruel. We are aware that, long before the appearance of the present memoir, M. Louis attempted to show that blood-letting exerts but very little control over the progress or termination of pneumonia, but has not gone so far as Dr. Dietl in pronouncing its influence upon the disease to be actually prejudicial. We cannot, however, reject the evidence which has been adduced to show that, in young, vigorous patients, and in the onset of the disease, a well-timed abstraction of blood carried to a sufficient extent will not unfrequently arrest the inflammation of the lungs, and prevent the occurrence of effusion and the consequent hepatization. That venesection will generally relieve the more urgent symptoms of pneumonia, Dr. D., with all his opposition to the remedy, is forced to admit; and there are few practitioners who would be willing, or would feel themselves warranted to allow a patient to suffer the distress resulting from a dyspnœa, daily augmenting in intensity, knowing, at the same time, that in the lancet they have a certain means of affording him prompt relief.

We admit that pneumonia may proceed through all its stages and terminate favourably without the employment of blood-letting; but are at the same time satisfied that, independently of the immediate relief to the patient afforded by the lancet, it is a means of controlling the unfavourable and fatal tendencies of the disease, and of adding to the certainty of the patient's final and complete recovery. To derive, however, from blood-letting all the good it is capable of effecting, it must be early and boldly resorted to. An ill-timed, injudicious, and inefficient employment of the lancet in pneumonia is calculated to do but little good, and its effects are then often injurious rather than beneficial. While we strongly deprecate the abuse of the remedy, we must wait for stronger evidence than has yet been presented before we can relinquish our predilections in favour of the lancet as "the chief remedial agent" in the treatment of acute inflammation of the lungs. D. F. C.

ART. XVIII.—*Observations on Certain of the Diseases of Young Children.* By CHARLES D. MEIGS, M.D., etc. etc. etc. 8vo. pp. 215. Philadelphia: Lea and Blanchard, 1850.

THIS work, as its title implies, lays no claim to the character of a systematic treatise. It presents merely the views of its author in relation to the pathology of a few of the diseases peculiar to the age of early childhood, and his experience as to the best plans of treating them. In this point of view, the observations of Professor Meigs demand our candid attention. Although, in his reasoning upon the nature and causation of the diseases of which he treats, the

author may often indulge in fanciful hypotheses, rather than follow a course of rigid induction from well-established facts, yet, in his practical teachings, based upon observations verified by many years of extensive practice, the physician, in common with the student, is furnished with a rich fund of instruction, the value of which is in no degree impaired by a few errors in doctrine that accompany it. The instruction is the result of long experience and careful observation—the only sources of true practical knowledge; while the errors have their source in a system of hypothetical reasoning, in which the author, we regret to say, with all his acknowledged talents, skill, and experience, is too prone to indulge.

The first chapter of the observations is devoted, 1st, to some general but particularly pertinent remarks on the means of diagnosis in the diseases of early infancy, enforced with all Dr. Meigs's peculiar earnestness in teaching; 2dly, to a cursory but sensible notice of the intra-uterine diseases of children, of the manner in which causes that impair the healthy condition of the maternal blood may affect the well-being and life of the fœtus in utero, and of the duty of the practitioner to watch over the safety of the unborn child during pregnancy as well as during labour; 3dly, to a short review of the circumstances which cause the child to be born in a state of non-viability; 4thly, to a consideration of still-born children—the causes of the non-occurrence of respiration in the new-born infant—and the proper means to be pursued in the several circumstances under which respiration may not occur at birth; 5thly, to a description of the natural process for the formation of the navel, and the accidents by which this process may be interfered with; and, 6thly, to the discharge of the meconium, and to its retention from inertia of the bowels, or from imperforation or constriction of the rectum.

Upon each of the subjects embraced in this first chapter, Dr. Meigs has thrown out hints well calculated for the instruction and direction of the student and young practitioner. We may, it is true, regret the want of fuller details on particular points, and feel disappointed that he has neglected to notice all the accidents which occur at, or within a short period after, birth. We should certainly have expected some reference to the hemorrhages that occasionally take place from the navel altogether independent of any neglect on the part of the accoucheur in properly securing the cord by a ligature. These hemorrhages are always troublesome and often embarrassing to the young obstetrician.

In cases of asphyxia neonatorum, Dr. Meigs advises, when we have failed to excite the respiratory movements, the declining temperature to be kept up by the warm bath, which may be rendered stimulative by the addition of brandy. Unquestionably in such cases the warm bath is a very important agent, and will often aid in bringing into action the respiratory apparatus; but, when respiration does not occur after a few minutes immersion, injury will result from any further continuance of the child in the bath; by raising the temperature of the child, it causes the extinction of its vitality to take place more rapidly; it at the same time prevents the access of the atmospheric air to its surface, which always exerts a very important vivifying influence; we should certainly prefer, in the cases alluded to, dry frictions to prolonged immersion in the warm bath.

Dr. Meigs refers to the occurrence of ulceration of the navel, in new-born children, attended with erysipelatous inflammation of the surrounding skin, extending occasionally over the whole abdomen; involving sometimes the genital organs, and, at others, rambling over other parts of the body. This condition of the navel is always dangerous, often fatal—the infant perishing miserably from deep-seated disease of the subcutaneous tissues, or copious, sanious, and bloody discharges from extensive surfaces of ulceration. It is to be regretted that Dr. Meigs has thought proper to dismiss the consideration of this disease with only a few cursory remarks. M. Trousseau supposes it to result from phlebitis of the umbilical veins; while Dr. Friebe, who describes it under the name of omphalitis exsudativa, controverts this opinion. In several fatal cases of ulceration of the navel in young infants, accompanied by erysipelas of the abdominal parietes, we have detected, by a post-mortem examination, the unquestionable indications of an inflamed condition of the umbilical veins.

The chapters on bloody tumours of the heads of new-born children, on in-

flammation of the eyes, and on the sore mouth of young infants, require no particular remark. The author's views, in reference to these affections, are in general perfectly sound, and his directions for their management judicious. The only remark we have to offer is to express our regret that he has not entered more fully into their consideration. Dr. Meigs's delineations of disease are often too sketchy, and his therapeutical directions too general for the use of the student, who, if he shall adopt the work before us as his guide-book at the bedside, will soon find himself in difficulties as to diagnosis and practice; not because his guide-book has taught him anything actually wrong, but from the fact that it has not taught him enough.

Coryza is the subject of the fourth chapter. Dr. Meigs believes that the chief danger to the young infant affected with coryza results from one of two causes: of which the first, and most common, is the filling up of the nostrils with a plug of dried, viscid mucus; and the other, a sub-mucous infiltration, causing the sides of the cavity to collapse. Now, as the nostrils are the principal—Dr. Meigs believes them to be the only—instinctive respiratory orifices in the new-born infant, it is evident that, so long as their obstruction from either of the above causes continues, the aëration of the blood in the lungs must be imperfectly performed. As a necessary consequence, the vitality of every tissue must become impaired, and the functions of the several organs impeded or deranged. These views are no doubt correct. The respiration of an infant labouring under a severe attack of coryza is always difficult and imperfect, and more especially so whilst at the breast or asleep; and the consequences resulting from imperfect aëration of the blood must certainly be taken into consideration in accounting for the suffering and danger attendant upon the disease, especially in very young infants. Still, we must insist that the impossibility of the child deriving a sufficient amount of nourishment from the breast, and the constant irritation produced by its ineffectual efforts to suck, have also some agency in causing the extreme emaciation which occurs in the more prolonged cases, as well as in increasing the danger of a fatal result.

Dr. Meigs' plan of treating coryza is to keep the interior of the nostrils, after they have been carefully freed from mucus, constantly anointed with some of the finer animal oils, or, what he believes well adapted to the case, the ointment of cucumbers.

"The effect of this application would be," Dr. M. remarks, "to cover the lower part of the aperture with a thin glazing of animal oil, upon which the viscosities will not rest and dry, but fall outwards upon the lip, whence they may be readily wiped away; whereas, upon the dry epithelial surface of the orifice, the viscosities adhere, become inspissated, and convert themselves into hard, dry, and solid crusts or scabs."

Dr. M. also directs that a light flannel cap, fitting closely to the infant's head, should be applied and worn until the coryza disappears. This he has found to be alone sufficient, in a large number of instances, to cure the malady.

In the majority of cases of simple coryza, occurring in young infants, we have no doubt that the plan of treatment recommended by our author will be all that is necessary; the disease, however, occasionally assumes a degree of severity, or is complicated with a morbid condition of the mucous membrane of the fauces or of the intestines, when, to ensure the safety of the patient, by its prompt removal, more active remedies will be demanded.

The fifth chapter treats of the bowel-complaints of children. After some very sensible remarks—would that all physicians, nurses, and mothers could read them and profit by them—on the management of the new-born infant, in regard to its application to the breast, the attentions demanded by the condition of its bowels, and its artificial alimentation when this becomes necessary, Dr. Meigs notices briefly the causes and treatment of infantile diarrhœa.

In speaking of the green-coloured discharges, Dr. Meigs refers their production invariably to the action of the acids contained in the intestines upon the colouring matter of the bile. The investigations of Dr. Golding Bird into the nature of these discharges, seem to us to have conclusively proved that, in a large number of cases, they are owing to the presence of altered blood, and

that in those affections, especially, in which the green stools are so prominent a phenomenon, they are, in fact, a form of melæna.

The ensuing chapter is on infantile jaundice. It contains many valuable precepts, somewhat mystified, however, by the very means adopted to explain and enforce them.

The chapter which follows, on the child's dress, is excellent throughout. The judicious remarks of the author on the subject of dress are the more important from the mournful fact, that "the cases are beyond computation, of attacks of illness, and of fatal seizures, clearly attributable to the faulty methods of dressing used in the United States."

Cyanosis neonatorum is the subject of the eighth chapter. Dr. Meigs, however, confines his remarks to those cases that are coincident with permanency, after birth, of the characteristics of the fœtal heart; and for the cure of which he proposes to cause the blood in the left auricle to press the valve of Botallus down upon the foramen ovale, and thus cut off the direct communication between the right and left sides of the heart; and this he conceives may be effected by placing the child upon a pillow, on its right side, the head and shoulders being inclined upwards about twenty or thirty degrees.

We have read with great care the whole of the author's reasoning in support of his view of the pathology of cyanosis, and the facts he has adduced as illustrative of the efficacy of his plan of treatment; and, while we admit the correctness of many of his conclusions, we have not been able to convince ourselves of the truth of his premises. In the face of all the numerous facts upon record, it is impossible for us to believe that the continuance of an open foramen ovale, or an intermixture of the venous with the arterial blood, is alone sufficient to produce the phenomena of cyanosis; nor can we see how, by the position of the child described by Dr. Meigs, the blood of the left auricle can be made to press down the valve of Botallus, so as to close the patent foramen. We admit that the inclined position upon the right side is one admirably adapted to give relief in many cases of cyanosis; and, further, that in the new-born infant there frequently occurs, from various causes, a state of partial asphyxia, with blueness and diminished temperature of the surface, totally independent of malformation of the heart, or large blood-vessels, in which, by placing the child in the position alluded to, its safety and comfort may be promoted, until the cause is removed by which the aëration of the blood is impeded.

Dr. Meigs reminds his readers, in the very commencement of the chapter before us, that his subject is cyanosis neonatorum. Why he does this, we cannot perceive, for certainly, under that name, cases of cyanosis from malformation of the heart or great blood-vessels may legitimately be included, inasmuch as in nearly all of these the cyanosis becomes apparent immediately or soon after birth.

Some of the cases adduced by the author in illustration of the beneficial effects of position in cyanosis strike us as rather strange examples of that disease.

The remarks of Dr. Meigs in regard to the pathology of asphyxia are unquestionably correct. It is by depriving the brain of oxygenated blood that the extinction of life is produced in cases of asphyxia, and it is to the influence of imperfectly oxygenated blood upon the nervous centres that we are to attribute the morbid phenomena that occur in cases of partial asphyxia. Upon these points there can certainly be no dispute.

Dr. Meigs proceeds next to the consideration of respiratory disorders. Under this head he treats of spasmodic croup, plastic croup, whooping-cough, and laryngismus.

On the various forms of croup the practical remarks of the author are in our judgment particularly sound. In plastic croup much of the fatality by which the disease is attended is, we believe, to be attributed to a neglect of the lancet in the early stages of the disease, and, therefore, urge upon the attention of our readers the deductions which our author draws from his long experience, and from the ample opportunities for observation he has enjoyed. The following are the author's general conclusions:—

"1. Diseases that diminish or hinder the ingress and egress of the respired air through the larynx and trachea destroy the patient by asphyxiating the blood. In proportion as the blood becomes less and less aërated, the nervous force is evolved with less intensity, and the power of the organs and tissues fails in the same proportion.

"2. Spasmodic affections of the muscular organs of the larynx, though less dangerous than the exudative obstructions, are yet worthy of the most careful attention, since they may readily lead to exudative disease in the mucous tissue of the organ of voice, and the trachea.

"3. The exudative corpuscles that constitute the plastic deposits in pseudo-membranous croup are deposited on the surface in consequence of the extreme activity of the inflammation existing there, and not in consequence solely of a state of the whole health, or a state of the blood as a whole. Hence, flecks of lymph, or exudation spots, fixed upon the arches, the tonsils, or pharynx, ought not to be regarded as signs of a depravation of the mass of the blood, or of a dangerous ataxy of the constitution, but only as evidences of an intense activity of the circulation and innervation of the parts affected. It is true that the activity of the circulation increases the risk from the local disorder.

"4. Inasmuch as a slight diminution of the aperture by which the air reaches the lungs leads to exhausting frequency or force of respiration, in order that the requisite amount of oxygen may be imparted to the blood, and as the lessening of the supply strikes at the root of the functions, by cutting off the sources of the innervations, the patient will be probably lost unless the local inflammation, and the constitutional excitement, if any, be counteracted by antiphlogistic treatment.

"5. In resolving upon an antiphlogistic treatment, it is safer to be governed by the considerations of date, and of exigency as to the degree and prospects of aëration, than by a state of the pulse, colour, temperature, and sensibility.

"6. To take blood, after the pseudo-membranous deposit is already abundantly formed, would be useless. The obstruction has in that stage become physical, and cannot be removed by antiphlogistic remedies, and the loss of blood could not be relied upon as a remedy for the deposit already formed.

"7. Yet if, in a case of croup, it should be found, upon due examination, that the tonsils and arches, as well as the pharynx, are affected with plastic deposit, and if the altered sounds of the voice, together with difficulty of breathing, might lead to the opinion that the deposit of exudation corpuscles had not already gone too far, it would be safe to assume that venesection carried to incipient deliquium might check, or even cure the inflammation of the trachea, and thus put an end to the further extension of the exudative processes. It would be much more probable that a patient thus treated should escape from death than one entrusted to the curative power of drugs alone. I have met with instances of the malady in which the child has discharged portions of tube and obtained relief thereby, and such examples are well known to occur.

"Now the expulsion of the tubular pseudo-membrane could only occur in cases where, in the process of depositing it, the inflammation had come to its close, and when the tissues, acquiring a healthier grade of action, had either suppurated, or discharged behind the layer of membrane a thinner material of exudation, or even a natural sort of mucus.

"Nothing is so likely, as I conceive, to bring about this desirable conclusion, as a well-conducted venesection. Hence I should not, in all cases, feel that I was acting imprudently to let blood for the patient, though I were at the same time sure of the existence of the pseudo-membranous lining. On the other hand, should the dyspnœa, and the cyanosis, and the state of the general circulation lead me to no hopeful conclusions of this kind above stated, I should not recommend a resort to the lancet."

Dr. Meigs is an advocate for tracheotomy in cases of croup that are so far advanced as to leave no reasonable expectation of their recovery under therapeutical treatment; determining upon the propriety of the operation from a general view of each case, paying no attention to the results of auscultation of the thorax, which, if confided in, ought perhaps to deter one from the opera-

tion. Dr. M. considers the operation as "scarcely more dangerous than the drawing of a molar tooth."

The question as to the propriety of resorting to tracheotomy in croup is an important one. What is the chance for the entire recovery of the patient afforded by it? Does the operation involve the patient in any additional risk? and in what case, and at what period of the disease, should it be performed?—are questions which must be satisfactorily resolved before the main one—Is it proper to perform it at all? can be properly answered. We have no experience ourselves in regard to the operation, and find it difficult to make up an opinion from the discordant views and statements in regard to everything connected with it made by those who have witnessed its results. We should not, certainly, object to its performance in cases where all other remedies have failed to arrest the disease, provided it were requested by the friends of the patient; and yet, at this late period, we should anticipate less chance of preventing, by it, a fatal termination than at an earlier period of the disease.

The chapter on pertussis, contains many very sensible remarks, all of a decidedly practical character. The author considers pertussis to consist in a peculiar paroxysmal cough, unconnected with any disease of the lungs, fauces, or larynx, sufficient to account for the phenomena, but depending upon some inscrutable morbid condition of the medulla oblongata.

In laryngismus stridulus, which is the subject of Chapter XI., Dr. Meigs is convinced that the diaphragm is the organ always most deeply involved—that it is, indeed, the principal organ affected by the nervous principle of the disease. It is to a spasmodic condition of this same organ that he refers "the insatiable indraught of the breath, followed by the successive and equally insatiable expirations of it" which constitute the paroxysms of whooping-cough.

To Dr. Meigs there appears to be reason for supposing the whole of the phenomena of the first attack of laryngismus, or, as he would prefer calling it, *phrenismus*, to result from a sudden hyperæmia of the respiratory lobe, or medulla oblongata. The disease once begun, it seems to him that there is no difficulty in accounting for the subsequent lapses that take place in the health, from the repeated suspensions of the aërating process, under which arrests the mass of the blood grows rapidly vitiate, and, insomuch, either inefficacious as to the nervous mass, or absolutely poisonous to it.

The salaam convulsions he believes to be merely a form of laryngismus.

Dr. Meigs very properly considers it to be all important to cut short the attack, especially the primary attack of laryngismus, as quickly as possible, and he believes that the diaphragm will be instantly made to act if a lump of ice wrapped in a handkerchief or napkin be applied to the epigastrium and moved over the arch of the hypochondria.

The directions given by the author for the general management of the disease may be consulted with profit. An idea will be formed of them from the following recapitulation, with which the chapter closes.

"I believe our duty in the case consists first, in making a correct diagnosis; 2d, in presenting proper explanations to the friends as to the prognosis, which is often unfavourable; 3d, in obviating the provoking causes, as swollen and distended gums, which are to be relieved by cutting them; 4th, in a heedful regard to the state of the bowels, whose faulty action needs correction; 5th, in directions as to diet, dress, exposure, and all that concerns the hygiène of the case; 6th, in the use of counter-irritants and antispasmodics; in the exhibition of tonics, and in attempts to defeat the demonstration of attack by great quietude, and by applying cold to the region of the diaphragm: and, lastly, in conducting the paroxysm, when formed, to the earliest and least mischievous possible conclusion, by the warm bath and other prompt measures. "I have not," says Dr. M., "in any case made use of venesection. My recollection of certain cases causes me to lament that I have not done so; and I shall, in any future occurrence of the kind, let blood from the arm, should the patient exhibit such evidences of strength as some that I have attended."

We call the attention of our readers to the views advanced by Dr. Meigs in relation to the pathology of the convulsive affections of the respiratory apparatus. It is purely hypothetical, it is true; but, nevertheless, it appears to us far

more plausible and consistent than any of the numerous and contradictory theories that have heretofore been framed.

Scarlatina is the last disease treated of in the work before us. "Scarlatina," according to Dr. Meigs, "is inflammation of the blood-vessels of the derm—or, to use the expression which he prefers, it is *endangitis* of the cutaneous vessels."

"Scarlatina," he remarks, "may be considered as an inflammation of the true blood-vessel, or endangium; the inflammation being chiefly observable in the capillaries of the skin, of the mouth and throat, and of the nostrils. In some of the cases, the inflammatory affection seizes upon the capillaries of the brain, more rarely on those of the stomach and bowels, &c.

"Seeing that the skin is an organ of vast extent, exceedingly vascular, and possessing important relations with the rest of the economy, we need feel no surprise to observe the constitutional disorder produced by so extensive an inflammation as that of the whole derm. As *the crasis of the blood depends upon the healthful force of the endangium*, it is to be expected that violent and extensive disorders of the endangium shall produce great changes in the crasis of the blood, and that those changes will exercise a pernicious influence throughout the economy. The nervous force, dependent as it is on the power of the blood to be charged with oxygen, fails under such conditions of the vital fluid, and the organs and functions, in succession, become overthrown."

"If it be the capillaries of the skin that are solely affected," says Dr. M. in another place, "I have to treat a mere case of scarlatina simplex. If those of the skin, and those of the mucous membrane of the fauces only are attacked, then I have scarlatina anginosa. If the skin, the fauces, the Schneiderian membrane, the larynx, and *à fortiori* the parotids, the heart, the lungs, the stomach, and the encephalon are all together involved by the inflammation of their capillary endangium, then I have a case of malignant scarlatina, and I know that the major part of such cases are mortal ones."

"In some of the (malignant) cases, the skin acquires, from the first, a deadly paleness, the extremities being cool or cold, while the pulse cannot be counted for its frequency, and is a mere thread at the wrists. But the child meanwhile is perishing from the frightful inflammation of the fauces, the pharynx, and the larynx. In this state, the brain seems, in some instances, intact, since the intelligence is wholly unperverted.

"I presume," says our author, "that here the endangium of the heart, the endocardium, and that of the aorta and the superior or inferior cava, is the seat of the endangitis, and not the endangium of the cutaneous vessels. This is what the vulgar call a case of scarlet fever struck in—a retrocession of the malady from the surface to the interior of the body."—"It is not a case of eruption struck in, but of an original attack of inflammation of the great central vessels, under which the central organs become incompetent to their office or function."

The foregoing constitutes certainly a very beautiful theory, but, still, only a theory. Before Dr. M. can expect us to adopt his pathology of scarlatina, it will be incumbent on him to prove, 1st, that the *membrana vasorum communis*, the endangium, performs the important physiological office he has assigned to it—that of either making the blood, by transmitting to its elements the nervous force, or by maintaining the blood in a living state by its presence and contact; and, 2dly, that in scarlatina certain portions of this membrana communis of the blood-vessels is actually inflamed.

The idea of certain fevers being dependent upon an inflammation of the internal tunic of the arteries is not original with Dr. Meigs; J. P. Frank had already suggested the theory, from having detected, in many cases, after death from inflammatory fevers, an inflamed condition of this membrane. The researches of the pathological anatomist can easily determine whether the indications of such inflammation are present or not in fatal cases of scarlatina.

Dr. Meigs denies the contagious character of scarlatina. He has long been fully convinced that scarlatina is a disease whose cause is to be sought for in some intemperies of the air or epidemic principle, of whose intimate nature he is, however, wholly ignorant. In this we entirely coincide with him.

"One might," he remarks, "well venture to resist the general assertion of

its contagion, seeing that it so very often breaks forth fearfully in places where no suspicion of human intervention can be indulged, and that it often enters populous households, affecting only one or two, and sparing three, or six, or eight other members of the family, even where not the slightest precaution against its propagation is taken by way of quarantine, disinfectant, or other means."

The remarks of Dr. M. on the treatment of the several varieties or grades of scarlatina are, in the main, judicious. We are pleased to find him an advocate for the lancet in this disease. There are few of the more severe—non-malignant—cases in which a timely resort to it will not, we are convinced, be decidedly beneficial, and tend to arrest the fatal tendency of the disease.

The medical profession owe many thanks to Dr. Meigs for the publication of these observations. Every practitioner will find himself deeply interested in their perusal; nor can he fail to be instructed by the opinions in relation to the character and treatment of important diseases of one so long and so laboriously devoted to their study at the bedside of the sick. His hypothetical pathology is always ingenious; his views as to the seat and cause of disease having often "the semblance of truth, if not its reality," though occasionally, we fear, they will be found altogether abnegated by the demonstrations of pathological anatomy. D. F. C.

ART. XIX.—*Some Account of the last Yellow Fever Epidemic of British Guiana.* By DANIEL BLAIR, M. D., Surgeon-General of British Guiana. Edited by JOHN DAVY, M. D., F. R. S., Lond. and Edin. 8vo. pp. 161. London, 1850.

THIS is a very valuable document. We have seen few accounts of epidemics drawn up with greater fulness and apparent care. Everything indeed that can throw light upon the causes, rise, progress, character, march, habits, and diagnosis of yellow fever, as it occurred in Georgetown, British Guiana, between the years 1837 and 1842, appears to have been carefully observed and recorded by Dr. Blair; and with a candour that proves he had no preconceived theory to establish—no prejudices calculated to distort, misrepresent, or give a wrong colouring to any of the facts connected with the questions he has investigated.

The general conclusions deduced from the observations of our author are:—

1st. That the disease is of local origin, and not infectious or contagious.

2d. That its exciting cause, whatever it may be, is limited as to space of action, and may be avoided by change of place; and, further, that although removal to a short distance, even if the ground be apparently similar, may often be sufficient, it is safest to make the change to a spot altogether different in its character from that where the outbreak took place.

3d. That the newly arrived from a cool or cold climate are more liable to be attacked by it, and ought, therefore, as much as possible, to avoid the localities where the disease is prevalent.

4th. That the natives of the African race, and of the mixed coloured races, though not always exempt from the disease, are comparatively little liable to contract it; generally, they may be considered safe from it, as well as from an attack of remittent fever.

5th. That the tendency to contract the disease in the instance of whites, is less in those coming from warm climates, as the south of Europe, than from cold, as the north of Europe, and North America.

6th. That the disease commonly does not recur in the same person.

7th. That yellow fever, it would appear, from its past history, has been variously modified—subject to many complications of a perplexing kind, which ought to influence the treatment, and which require to be studied, and, as far as possible, determined, to fix the mode of treatment likely to be most successful in each epidemic.

8th. That, though it has invaded bodies of men occupying apparently healthy quarters, and under circumstances favourable, seemingly, to health, yet most commonly it has broken out in situations of a different character, where the

drainage has been defective, where there has been crowding and neglect of cleanliness—in brief, a complication of circumstances, more or less of an unwholesome kind, such as are likely to promote the action of a specific exciting cause; consequently, that all measures of a sanitary kind cannot be too sedulously attended to with a view to the prevention of the disease.

9th. That the disease hitherto has been of periodical recurrence, not yet calculable, its cause being unknown; and that, though occurring oftenmost in the coolest season, not invariably so, and that no uniform kind of weather, as far as observations hitherto extend, has been connected with its appearance; and, consequently, there can be no certainty at any particular time as to its non-recurrence.

The mean annual temperature of Georgetown is about 80°, the thermometer rarely at any time falling below 77°.

"As Demerara lies permanently within the meteorological yellow fever zone," says Dr. Blair, "as persons fresh from cold climates and susceptible of the pathogenic influence of yellow fever arrive daily, and as, notwithstanding, it is only after long intervals of years that yellow fever is observed among us, it is evident that some element is required in the formation of the disease besides European blood and tropical heat. It is also evident that, whatever that element may be, it is different from the pathogenic entity of intermittent fever; the latter being a disease which is constantly present here in all its types, complications, and sequelæ."

"What the yellow fever poison may be has never been demonstrated. Whatever it be, it is probable that in all localities within the yellow fever zone it is the same thing. The auxiliaries of it, however, may be different, as well as the vehicle of communication, and perhaps it may be generated in a variety of soils. Extreme heat and drought, however, do not seem to influence its development here. The year 1833, during which the very beds of the navigable canals were deeply cracked from drought, was not followed or accompanied by an invasion, and the epidemic was long on the decline before the long dry season of 1845 and 1846. The return of our epidemic approximates to the metonic cycle."

The evidence adduced to prove the non-contagious character of the disease is conclusive.

"During the epidemic, the yellow fever cases in their worst forms were never separated from other patients in our hospital wards. Such a thing was not deemed necessary, and never thought of. They were classified with acute cases. Our hospital nurses never got infected, although in the closest connection with the sick, and often smeared with their ejections; and these nurses were chiefly German and Portuguese immigrants. The resident surgeons, dispensers, and stewards were all susceptible subjects, and, with one exception, about to be named, escaped without an attack. Mr. Bell, the first dispenser of the Seaman's Hospital, then lately from England, spent several nights in Water Street (an infected district), attending on a sick friend, Mr. Huddleton, got yellow fever, and died the night he was gazetted to his appointment, and never did one day's duty at the hospital. Certainly his friend had the same disease, but Mr. B. caught it as Mr. H. had caught it, in *Water Street*. The way to give a yellow fever nurse the yellow fever was not by bringing him in close contact with the sick, but by discharging him or her from the hospital. After knocking about town for a few weeks, and getting into the malarial districts, they would, it is likely, be brought to hospital as yellow fever patients. Several nurses discharged for bad conduct suffered in that way. Dr. Bonyun, then one of the resident surgeons of the Seaman's Hospital, and not long from Europe, slept continuously in the Seaman's Hospital, while it was crowded with yellow fever, without suffering from the disease, and without fear of contagion. In December, 1843, the mate of the 'Matilda Luckie' was admitted with the *gravior form* of the disease, and of a low type, of which he died. His bed was in a sheltered corner of Ward No. 2, and had mosquito netting all around. Into this bed a seaman named Burton, who was admitted for disease other than yellow fever, slight indisposition, was put for several days without infection of any kind following. Neither was such an experiment deemed hazardous to the subject, nor objectionable, except on the score of cleanliness. Experiments made by

me on the muco-purulent looking matter which frequently exudes from the eyes in the late stages of yellow fever, applied to healthy conjunctivæ, showed that, though slight ophthalmia followed, no yellow fever contamination was the result. Many ships lost hands after their departure from port, and were obliged to put into Barbados and other islands for additional men; but we never heard of any spread of yellow fever among the islands in consequence. None of the Georgetown medical practitioners suffered from the yellow fever except Dr. Fraser and myself. The disease picked out the new comers of an establishment, and no reluctance was felt either by friends, relatives, or acquaintances, to perform any service for the sick. Our ventilation is certainly excellent, but it does not render the exanthemata uninfectious when they pay us their rare visits."

"It is necessary in candour to state that, during the epidemic, many patients admitted to hospital for other diseases, got yellow fever, and some died of it thus as a consecutive disease. There are circumstances, however, connected with these cases of yellow fever, which render contagion an improbable cause. The patients in whom the disease occurred were generally those of the chronic case wards; thus, the ward of the first story of the Seaman's Hospital was that in which they generally occurred there; and, in the Colonial Hospital a Portuguese or German immigrant, if sent down among the negroes (ulcer cases), ran much risk of a yellow fever seizure. My predecessor, Dr. Smith, was of opinion that the cases which happened in the wards on the lower floor of the Seaman's Hospital were occasioned by the vicinity of a pond in the hospital garden, and right to windward. He had this pond filled up in consequence of this opinion, and certainly the cases of yellow fever, commencing in hospital, became very rare afterwards. The ward in the Colonial Hospital was on the ground floor; the floor was below the level of the surrounding land, but was closely boarded with 'groove and tongue;' at the sides, however, many rat holes perforated the floor. Below the floor there constantly existed a pool of filthy water, the oozing of the surrounding ground; to empty which, from time to time, a well, with a pump, had to be sunk in the next apartment. These hospital cases were then, probably, either cases in which the disease contracted in the usual localities was latent on admission, and passed through a long incubation, or the hospital wards were not quite out of the malarial district and elevation.

"The only instance of public precautionary measures being adopted, under the impression that the epidemic disease was contagious, was at Berbice, at Fort Canje. Captain Warburton, at the instance of Assistant-Surgeon Turner, established a rigid *cordon*, and prevented all intercourse with the town of New Amsterdam. Previous to this, no case had appeared in the garrison. An effect of the cordon was to prevent hucksters and others bringing in fresh provisions, fruit, &c., to the soldiers. The soldiers were also, of necessity, thrown on their own resources, *pour passer le temps*. However, notwithstanding all communication having been cut off with the town, the yellow fever epidemic soon appeared in the garrison, and poor Dr. Turner fell a victim, not to the yellow fever, according to the practitioners who attended him, but to inflammatory fever, the result of extreme fatigue, mental anxiety, and chagrin."

We have considered the foregoing facts important in consequence of an attempt having been recently made to prove the absolute contagiousness of yellow fever, and that, in certain localities, its introduction can always be traced to the landing of persons labouring under the disease from infected vessels or ports.

According to Dr. Blair, the principal *predisposing* cause of an attack of the epidemic was the "state of the constitution," induced by a previous and recent residence in a cold climate, while the grand *exciting* cause, during several years, was exposure to the influence of certain malarial localities.

"At the beginning of the epidemic, and till after the lull at the end of 1837, Europeans of many years' residence, and some of the black and coloured population, and Indians, suffered from the disease. Among the old European residents, or white Creoles of the West Indies, however, when it occurred, it rarely ended fatally, although the type was of the gravior form. After 1838, the epidemic became almost peculiar to new comers from cold climates. *Complexion*

seemed a matter of little consequence. The negro cook on board of Nova Scotia and United States traders was susceptible, and the dusky South Sea Islander, if prepared by previous northern residence. The lower the isochiemal curve of his native country or home, the more virulent was the attack of the epidemic on the subject of it. Thus, while the per centage of mortality among West India islanders, in the Seaman's Hospital, was 6.9, that of French and Italians was 17.1, that of English, Irish, and Scotch, was 19.3, that of Germans and Dutch was 20, and that of Swedes, Norwegians, and Russians, 27.7. There appears an exception to this law in the case of North Americans, as their per centage of death was only 15.7. This exception, however, has no force, for it is caused by the short period of exposure of the North American traders, whose stay seldom exceeds eight or ten days in port. From the records from which the above centesimal proportions have been calculated, the *simplex cases* have been struck out in all instances."

Intemperance, according to Dr. B., was occasionally a predisposing cause by recklessness of exposure, but entire abstinence from intoxicating drinks afforded no protection. In fact, he adds, *delirium tremens* was not an unfavourable complication of the disease.

"Sometimes the *determining* cause seemed of the slightest description; the shock on the stomach by an ice cream or glass of iced punch, or the indigestion of an unripe orange, would occasionally set the train of symptoms in motion. It seemed, at one time, as if those resident in the infected districts circulated the poison habitually through their system; that old residents had, in an eminent degree, the power of eliminating it and keeping its presence latent—had a tolerance of it; but that new comers, and particularly those of florid complexion and rigid fibre, were constantly, in reference to the presence of the virus, in a state of *tottering equilibrium;* so that in them the slightest unfavourable impulse to the balance, the lowering of the vital powers by fatigue, the suppression of any of the depurating secretions, a shock to either of the nervous centres, or the depressing emotions, were sufficient to excite the latent poison. There was no external sign of the epidemic poison in the eyes of those in health—as at Philadelphia, and described by Dr. Rush; but the notion of its presence in a latent condition, and in augmenting and diminishing quantities—whether circulated in the blood or impressed on the organic nerves—is countenanced by many phenomena of the epidemic: such as slight preliminary attacks, with longer or shorter intervals of perfect health, preceding even fatal attacks, and the well-marked three grades of the disease. Cases have been admitted into the Seaman's Hospital, and private cases have been noticed, death-stricken from the first, wherein the system seems to have been so saturated with the poison as to have prevented any stage of excitement. Cases also have been noticed of genuine yellow fever, but with the characteristics so slight as to raise a doubt as to the peculiarity of the fever."

In those cases—and they were chiefly among new comers—where the immediate attack was referable to a slight determining cause, the disease, we are told, always exhibited its utmost violence.

Patients labouring under intermittent fever, dropsy, ptyalism, peritonitis, pneumonia, anæmia, rheumatism, erysipelas, ophthalmia, syphilis, eczema, hooping-cough, the most inveterate lichen tropicus, scalds, bruises, flesh wounds, and fractures, were attacked, and often fatally, by the epidemic. It has added itself to delirium tremens and to lead colic. It has supervened during the flow of the catamenia.

We shall give the author's description of the disease entire:—

"An attack of yellow fever of our last epidemic, in a well-pronounced case, was manifested by the following symptoms: *Alternate flushings and rigors, resolving within twenty-four hours into a perfect hot stage.* The rigors frequently coexisted with hot skin, and were felt chiefly on turning or making any movement under the bed-clothes. A sensation of heat, felt by application of the hand, chiefly over the head and chest; *supra-orbital headache; suffusion of face, and part of lucid cornea opposed to light;* preternatural redness of the mucous membrane of nares, lips, and *tip and edges of tongue;* recti muscles of abdomen well marked and tense, without tympanitic distension; thirst; nausea,

proceeding on to retching and vomiting of ingesta, and of scanty yellow bilious fluid; alvine evacuations dark, apparently long retained, abilious, and often fœtid; tenderness of epigastrium evinced on careful pressure.

"These symptoms continue steady during two or three days, the bilious ejections, however, becoming greenish by the end of that time. The fever then subsides; the skin becomes cool and pleasant; the tongue shows a disposition to clean, and there is less *fieriness of its tip and edge;* thirst abates, and there is some appetite for food. The patient's anxiety and morbid fear of death, which may have been very great, subside, and both he and the bystanders are satisfied of his convalescence. By and by, the eye, which has lost its glistening appearance, assumes a condition of chronic vascularity, of a dull-orange red. The flushed countenance has given way to a sottish appearance, and greasy, dirty complexion. If the eyelid be turned down, a yellowish suffusion is perceived on the sclerotica. The forehead has a dusky appearance, which extends also to the angles of the mouth and over the neck and chest. Pressure of the hand over the chest or abdomen will now leave pale finger-marks, indicating languor in the capillary circulation. Some food, which the patient has been permitted to eat, lies heavy on the stomach, and is rejected. The stomach again becomes irritable, and clear, mucous, acid fluid is thrown off in considerable quantities. If this last symptom continues with severity for a few hours, specks may be noticed in the fluid as if a pinch of snuff had been scattered in it; or a tenacious, dark, clayey deposit will be found in the bottom of the basin. The gastric irritation may now again subside, and the fur will clean off the tongue, and the fiery edge and tip disappear, leaving a preternaturally clean or raw surface; or an attempt at fur may show itself, as if a coat of milk and water had been brushed over the tongue.

"The yellow or purple suffusion of surface is now more marked; in general, local uneasiness is chiefly referred to the fauces, or to the course of the œsophagus, or ensiform cartilage, but the patient feels tolerably well, and hungry. If the finger be now drawn briskly across and against the pectoral muscle, a wheal will follow the pressure, rising up and subsiding with a vermicular motion. After a time, an indication of loss of vital cohesion shows itself, probably by epistaxis or ecchymosis; and, in consequence of some uneasiness, the patient turns himself in bed, and an involuntary gush of black vomit is spurted over the bed and furniture. Bloody oozings take place from the mouth, ears, or anus. The scrotum becomes excoriated. The blistered surfaces become raw and claret coloured. The skin is damp and cold, though the patient complains of heat. The fingers are shrivelled. An unpleasant odour emanates from the breath and body. Black vomit continues to be ejected. The pulse loses strength, till at last it ceases to be felt at the wrist, and the patient dies with intelligence unclouded, and his muscular strength but little impaired, telling you he is getting quite well, or, as a poor dying Irish sailor expressed himself, 'illigant this mornin'.' The foregoing description refers chiefly to the gastric variety of the disease.

"It will be perceived that the disease shows two grand stages: viz., that of reaction, or fever, and that of unhealthy subsidence—the period of irritation, and the period of contamination—and that the duration of the disease is nearly equally divided by these two stages. Practically, however, and perhaps naturally, the stages of the malady resolve themselves into three: viz., that of simple *excitement*, which occupies three-fifths of the duration of the disease; that of simple *acid elimination*, which characterizes the second; and that of *passive hemorrhage* (of which black vomit is one of the manifestations), as the third.

"In cases terminating in *convalescence*, the symptoms were parallel, as far as they went, with those cases ending fatally. Thus an attack may terminate favourably at the end of the first stage, or at the end of the second, or at the end of the third—periods at which nature seems to struggle for a resolution of the disease—the later, however, the less effectually. These three stages, in a measure, represent the three varieties of the disease which prevailed during the epidemic. Thus, the '*simplex*' form is described by the first stage, the '*mitior*' by the first and second, and the '*gravior*' is included in the third.

"When the head is the principal seat of the disease, the cerebral and eye symptoms are most strongly marked; delirium or coma frequently supervenes, and convulsions may close the fatal case. In some of these, black vomit may not occur. Dark, porter-coloured urine, and hemorrhage of black blood from the bowels, may be vicarious of black vomit when the kidneys and bladder, or intestines, are the chief locality of the disease.

"Occasionally, cases were seen among the Portuguese immigrants of what perhaps might be called *chronic* yellow fever, in which the virus seemed for some time smouldering, preceded and attended by a mere *molimen*, instead of the ordinary fever. It seemed as if the *virus* had been partly divested of its irritant quality, and that the disease simulated scurvy. In other cases, the first stage seemed shortened or annihilated by the overwhelming dose of the virus. A few cases occurred in which the characteristic appearance of tongue and eye, and pain in head, were absent for two or three days; but the yellow skin and black vomit preceded death. Notwithstanding, however, these few exceptions to the normal procession of symptoms, the first stage was a necessary antecedent to the second, and the second to the third, almost universally.

"*Secondary symptoms*, or sequelæ, occasionally arose after convalescence from the third stage of the disease, and retarded the restoration to perfect health, and occasionally proved fatal. These were principally abscesses, which, when once discharged, seldom again filled, furunculi, swelling of lymphatic glands, swelling and sloughing of parotid, bullæ, active hemorrhages from ulcerated surfaces, and jaundice. But, in general, convalescence was rapid and complete, and attended with a speedy restoration of all the healthy functions."

The period of incubation, it would appear, is very various. Some systems can, for a long period, throw off the morbific agency; while with others exposure the most casual and temporary produces immediate effects.

The invasion commenced sometimes with malaise of several days duration. Sometimes the formative stage showed itself in diarrhœa; in a few cases, it commenced with apoplectic or paralytic symptoms. Sometimes, if the treatment was early adopted, or the patient was suffering from another malady, reverberations, repulse, and relapse, were observed in the first stage, thus abnormally extending its period. About one-half of the normal cases, it is stated, were so sudden and pronounced in the seizure that the exact hour of attack could be precisely ascertained. Thus the hours of *six* A. M. and *six* P. M., when, in the latitude of Georgetown, the most violent of atmospheric disturbance of the day occurs, were most favourable to the seizure.

"The *average duration* of an attack of the disease ending in convalescence, estimated from 1158 cases of the *gravior* form and 428 of the *mitior* form, was 6.34 days for the former, and 5.35 for the latter. The *average duration* of a fatal attack, estimated from 404 cases, was 7.08 days. In these estimates, the day of attack, and the day of death or convalescence, are reckoned *each* one day. Although the maxima and minima days of duration differed widely from the average—those of the *gravior* being twenty-three and two, and those of the *mitior* thirteen and two, and those of the *deaths* twenty-four and two—yet the vast majority of cases fall in closely with the averages, and this coincidence happened always more particularly when the disease was purest, and the epidemic pulsations most intense. The averages may, therefore, be assumed as the *law of duration* of each class respectively. The manner in which this law of duration was disturbed was chiefly by abnormal prolongation of some one of the stages, or by the interval between the stages being so prolonged as to amount almost to convalescence, or suddenly cut short by resolution, or fatal congestion, or nervous shock. Healthy activity of the secretions, such as bilious stools and copious urine indicated, would prolong the duration of fatal cases. Treatment had a marked effect on the law of duration; and complications, and secondary symptoms, and relapse from ill-managed or imperfect convalescence, also disturb it."

The average number of days during which patients convalescent from the yellow fever remained in the hospital till perfect health was restored was, for 417 *mitior* cases, 6.55, and 1140 *gravior* cases, 7.91 days. Retarding and

accelerating causes acted with as much force on this period as on that of actual disease.

"A purple, and sometimes a lobster-red, condition of the skin seemed occasionally the equivalent," we are told, "for yellowness during life; and, although *white* marks were left temporarily by pressure, the purple or livid colour, after death, subsided to dependent parts of the body, leaving uniformly a yellowness of upper parts." "It certainly must be admitted," says Dr. B., "that a large proportion of cases of yellow fever are unattended by yellowness of surface or even of eye, for the disease may be cut short by treatment, or the epidemic may be of the simplex grade, or the mitior, and the yellow suffusion may be so slight as to escape notice. But it is a highly important symptom, and, in every fatal case, the yellow suffusion, of a deeper or fainter tint, will be observed after death. The yellowness of this fever, which seems independent of obvious liver disease, is truly characteristic, and furnishes, though not an unobjectionable, a good appellation for the disease."

Black vomit, Dr. B. remarks, is not a symptom essentially necessary to a genuine case of yellow fever.

"It manifests," he adds, "only one phase of the stage of passive hemorrhages; even the lochial may be its equivalent as well as its accompaniment. As some time elapsed before the precursory or *white* vomit was distinctly recognized as a symptom of the malady, the number of cases in which it occurred is no doubt under-stated from the case-books. It is shown, however, as might be expected, to occur oftener than black vomit. Out of the 2071 cases of *mitior* and *gravior*, it is noticed in 417, while there are only 366 cases in which black vomit occurred. Black vomit generally followed the precursory vomit, but many cases of death have occurred after the latter only.

The per centage of the mitior and gravior cases in which black vomit occurred was 17.67.

"Black vomit," says Dr. B., "although a very unfavourable symptom, and more so than yellow skin, being as 75.68 to 46.23, is still not necessarily fatal. Out of the 366 cases of it, 277 only died, giving the centesimal mortality just stated, viz. 75.68."

"Yellow skin and black vomit were closely associated as to the time of their appearance: but the former was generally the antecedent (fortunate for the patient when otherwise). Thus, in 139 ascertained cases, the former preceded the latter in 51 instances. The double symptom of yellow skin and black vomit was of all others the most dangerous, and especially when the latter succeeded the former, and within twenty-four hours. The co-existence of these two symptoms was observed in 144 cases, being 6.95 per cent. of the 2071 mitior and gravior cases admitted to Seaman's Hospital. Out of these 144 cases 122 died, making the mortality of the conjoined symptom 84.72 per cent."

We cannot follow the author throughout his excellent analysis of the symptoms, essential and occasional, of yellow fever. It is particularly interesting and instructive.

From his account of the post-mortem appearances we copy the enumeration of the lesions observed in the liver and spleen, and the description of those generally presented by the stomach.

The *liver* in 3 cases is recorded as being natural; in 2 with recent adhesions of peritoneum and diaphragm; in 20 as enlarged; in 4 as enlarged in the right lobe; in 4 as unusually small; in 4 as remarkably elastic; in 1 as flabby and elastic; in 17 as friable; in 2 as much softened; in 1 as hard and grating; in 2 as dense; in 1 as affected with cirrhosis; in 10 as having externally a deep yellow colour; in 9 as pale yellow externally; in 1 as having its external surface mottled yellow and red, and yellow and slate colour; in 1 the liver is described as pale green; in 2 as greenish-brown; in 1 as very red; in 1 as of a Bath brick colour; in 1 as of a pale slate colour; in 2 as ochrous brown; in 1 as reddish-yellow; in 1 as mottled externally, Bath brick colour internally; in 2 as of Bath brick colour externally, and speckled internally; in 1 as mottled pinkish red externally, and clayey-yellow internally; in 1 as mottled of different shades of yellow externally, and dark yellow internally; in 2 as light brown externally, and anæmiated internally; in 1 as speckled red on yellow ground

externally and internally; in 16 as presenting red dots surrounded by yellow rings internally; in 1 it is described as inflamed; in 13 the portal system is described as gorged, and in 2 as empty; in 17 the liver is described as affected with parenchymatous congestion; in 2 as anæmiated; in 1 as gorged with bile drops; in 4 with black blood, and in 4 with thin serous blood.

The *spleen* in 6 cases is described as perfectly healthy; in 12 as friable and soft; in 1 as almost fluid, with broken down black blood; in 1 as containing much grumous blood, and in 2 other cases much thin claret like blood; in 11 cases it is described as congested, and in 14 as enlarged.

"The *blood*," says Dr. B., "in the dead subjects was almost invariably abnormally thin and black.

"The second anatomical characteristic of the disease was the hemorrhagic lesion of the mucous and submucous surface of the alimentary canal, and the peculiar excretions therein contained. The cardiac end of the stomach was the chief site of the inflammatory or congestive hyperæmia. The œsophagus, particularly at its gastric extremity, was next in frequency affected. The affection of the œsophagus had, however, some peculiarities, and chiefly in being attended with a peeling or erosion of the epithelial coat in longitudinal stripes. This erosion might occur without hyperæmia, and *vice versâ*.

"The erosion was always more or less marked as vomiting had been more or less severe during life. The intestines followed the œsophagus in frequency of lesion. Sometimes the congestion or ecchymosis of the mucous and submucous surface of the alimentary canal was so intense and extensive as to give them a sphacelated appearance, and an appearance of gangrene to the whole intestinal peritoneum, on opening the walls of the abdomen.

"The villi were the chief seats of engorgement, sometimes to perfect blackness. The hyperæmia had sometimes a stellated appearance, sometimes dotted, or blurred, or striated, sometimes arborescent, and generally of a rusty red colour; frequently inflammation, congestion, and ecchymosis were so blended as to defy discrimination. The hyperæmiated or eroded surfaces were generally clothed with viscid mucus; sometimes the stomach was of a uniform deep claret colour, as if by the imbibition of imperfectly formed black vomit, and giving to its peritoneal coat a rosy hue. Sometimes the general red discoloration of an apparently inflamed piece of stomach or intestine could be scraped off without injuring the mucous tissue. On such a piece being slightly washed of its mucosities and held up to the light, the appearance resolved itself to a mere film of blood, adherent apparently by the undeveloped epithelial matter. The ecchymosis was occasionally in the mucous, frequently in the submucous, and only once in the subperitoneal tissue. The unusual condition of the solitary and aggregate glands seemed due entirely to surrounding and interstitial congestion and ecchymosis. At the ilio-cœcal valve the hyperæmia was thickly punctated, like a close shaven black beard.

"Submucous arborization was of general occurrence in the large vessels. In one case it was in six-inch length patches in the jejunum, and of three feet in the ileum, accompanied with extensive ecchymosis. Sometimes the capillaries (particularly of the œsophagus) were developed as in chronic ophthalmia, but of a dark colour. The ulcerations occasionally showed a foul sloughy base, but in general they were merely peelings or erosions of unusual depth, and they were in longitudinal stripes. Hyperæmia frequently reddened and elevated their edges. Their surface was frequently formed of the submucous tissue and meshes of dead capillaries. The source of the black vomit could always be traced to hemorrhagic spots generally in the stomach, but, if not there, in the œsophagus or duodenum. The presence of black vomit in the stomach after death was the rule, its absence the exception. It was generally found in considerable quantities, so that on turning over the cadaver it would gush profusely out of the mouth and nares. Black vomit seemed merely an ulterior effect of the hemorrhagic condition of the blood, mucous membrane, and capillaries; and although sometimes absent, its antecedent lesion was always present in a pure case of death from yellow fever. An early and fatal complication might destroy the patient before the disease was matured, and then, of course, many of the anatomical signs would be absent. If the patient died of secondary

symptoms, then many of the anatomical signs were absent, for they had passed away. Bloody black vomit was found in death after the third stage of the disease had shown a tendency to convalescence. In a case of death sixteen days after black vomit and yellow skin, although no black vomit was found in the stomach after death, the hemorrhagic spots of mucous membrane still persisted. But in cases of normal duration, sometimes black vomit was not ejected before death, nor found in the stomach after death. In these cases the development of the sign seemed to have been prevented either by the supremacy of an active *inflammatory* condition of the stomach, or by traumatic hemorrhage draining the stomach and rest of the body of its blood, or by excessive engorgement of, or extravasation into, a neighbouring viscus or cavity.

"Where black vomit had been ejected during life, still it did not, in a few cases, show itself in the stomach after death. Sometimes emesis, by emptying the stomach immediately before death, caused this absence of the black vomit. Sometimes its ejection and elimination had ceased for a short time before death, and in that case the peristaltic movements carried the contents of the stomach into the intestines. Treatment had its effects in altering the appearance of black vomit. Where the mistura cretæ had been used, or much milk allowed in the last stages, the character of the black vomit was much altered by the admixture.

"The anatomical signs of our late epidemic disease," remarks Dr. B., "were fully as characteristic as the living symptoms. The yellowness of surface, particularly of the eyes, the *embonpoint*, the condition of the blood, the hyperæmia of the alimentary passages, particularly the cardiac ends of the stomach and œsophagus, and the duodenum; the hemorrhagic state of the system, as indicated by the surface of raw blisters, by the oozings in the mouth, and the black vomit in the stomach, by ecchymosis and passive congestions; the peeled condition of the œsophagus; the *unjaundiced* condition of some or all of the internal white tissues—gave in the dead subject indications which were not to be mistaken for the effects of any other known disease of the colony."

In regard to the treatment, *general blood-letting* was not found beneficial, excepting in a very few cases; *local blood-letting* was frequently requisite as subsidiary treatment. But in all cases the more economical the expenditure of blood the better. In no case was it admissible after the first stage. *Opiates* were found to be doubtful, if not injurious.

"The *materia medica* of the practitioner in yellow fever," according to Dr. B., "might, after the experience of the entire epidemic, be almost included in the following list, viz.: a *compound of calomel and quinine*, in the proportion of 20 grs. of the former to 24 grs. of the latter;" "*castor oil; water; cantharides blister; Rhenish wine; chalk mixture* (without any essential oil); *creasote; liquor potassæ; ammoniacal paste; sinapisms; musk; carbonate of ammonia; spirit of mindererus; magnesia; laxative enemata;* and *lemonade.* The dietetics were barley water, sago, arrowroot, tea, chicken broth, beef tea, and toasted bread (unbuttered). The above includes all that is peculiar in the established treatment of normal yellow fever. Complications were treated on general principles." "The 1st, 2d, 3d, and 4th classes refer to the treatment of the first stage of the disease; the 5th to the intermediate stage; the 2d, 5th, and 6th, to the third stage; and the 7th to a protracted state of the second and third stages—as if the disease were a *chronic yellow fever;* in cases of which yellow suffusion generally persists long without much irritability of stomach, or evolution of acid gastric secretions."

In the formative stage, or within a few hours after the development of the first stage, the compound of calomel and quinine, followed in six hours by ℥iii of castor oil, would perhaps, we are told, in nine cases out of ten, immediately arrest the disease. If the disease did not, however, yield to the first dose, the calomel and quinine are to be repeated every six hours as long as there was no contra-indication, and as long as the first stage of the disease existed. This treatment, begun with very early in the first stage, might, according to Dr. B., be designated a specific. He had never occasion to prescribe more than six doses of 20 grs. calomel to 24 of quinine to any one patient, and he has no recollection of ptyalism ever following its use.

Much frontal headache, with injection of eyes and suffusion of face, might require a division of the temporal arteries, or blisters to the nape of the neck; crimson-edged tongue, tender epigastrium, and irritable stomach, might require cupping, and sinapisms or blisters. Intense heat of surface might require the cold drip or wet sheets: moderate heat of surface required sponging with vinegar and water, or tepid water only.

An intolerance of the quinine, shown by an unusual and violent effect on the head, with much deafness, contra-indicated its further use, and offered the most unfavourable prognostic of the case.

The best treatment of the second stage was, we are told, *expectant*, with a proper regulation of diet and regimen. If aperients are required, magnesia or enemata are the best. If a stimulant is permitted, it should be a moderate quantity of the best hock or weak brandy and water, well cooled, but not iced. If much gastric irritation is present, and the epigastrium has not been blistered, repeated sinapisms will be beneficial, with liquor potassæ in barley water.

In the third stage, a cautious regulation of diet is demanded. When counter-irritants are required, the ammoniacal paste or sinapisms are the best. Blisters are improper. The diminished heat of the extremities must be met by dry frictions, light flannel clothing, and hot applications; emesis, by drop doses of creasote made into a light emulsion with mucilage and sugar; or by the chalk mixture, ℥i every one, two, or three hours; or by the liquor potassæ in doses of 20 drops in barley water. When the stomach would bear it, carbonate of ammonia combined with musk was found highly beneficial; ten grains of the former and thirty of the latter as a dose, to be frequently repeated. In some rare cases in which the heat of the extremities persisted, the aq. ammon. acetat. with an excess of ammonia was found to be of advantage, as also a mixture of carb. ammon. and hydriodate of potash in solution. Carbonate of soda was sometimes substituted for the liquor potassæ. Of all cordials the best was pure Rhenish wine. Dr. B. has often given it to the extent of two bottles in twenty-four hours.

"Chicken broth, milk, barley water, and thin arrowroot or sago, should be given frequently, but in small quantities. When convalescence is established, it is of the utmost consequence that the transition to the diet of health should be gradual. Cases of exacerbation and relapse have been known to follow the too early transition from even barley water to low diet."

"After the cessation of the disease, and the stomach is restored to health, a jaundiced state of the skin, and ill-conditioned abscesses, and other occasional sequelæ will require lemonade, oxymuriate of potash, and decoction of cinchona, or change of air, and treatment on general principles."

The foregoing memoranda of treatment refer to the epidemic in the *mitior* and *gravior* grades. When the simplex grade prevailed, the cases, we are told, were infallibly cured by a purgative and quinine pushed on to "cinchonism."

Of the interesting papers in the appendix, and of the valuable notes of the editor, Dr. Davy, we have been unable to give any particular notice. The excellent report of Dr. Blair we recommend to the careful perusal of all physicians who may be so located as to be called upon to treat the disease which constitutes its subject. D. F. C.

Art. XX.—*Elementary Chemistry, Theoretical and Practical.* By George Fownes, F. R. S., &c. Edited, with additions, by Robert Bridges, M. D. Third American, from a late London edition, with numerous wood engravings. Philadelphia, Lea & Blanchard, 1850: pp. 516.

A Practical Handbook of Medical Chemistry. By John E. Bowman, Demonstrator of Chemistry in King's College, London, &c. Philadelphia, Lea & Blanchard, 1850: pp. 288.

In the above works, which have just appeared, we are called on to lament on the one hand the removal of an old fellow-labourer from the busy scenes of this world, and to greet a new in similar but not the same paths. In the death

of George Fownes (January, 1849) science has lost one of its bright luminaries, long known to us as the author of one of the most concise, clear, and comprehensive elementary works on chemistry that have appeared since the earlier editions of the "Elements" of Turner. The constant accessions to this science, and to which our author added his quota, render it necessary that each successive edition of a chemistry, however elementary in character, should be not a reprint only of the prior, but also a thorough revision; the errors or mistakes of the past corrected by the increased knowledge of the present, and such additions to the science as may have in the meantime accumulated, be examined, compared, and selected, so that no important facts may be omitted which tend to elucidate either its theory or practice. To the English edition (the third), from which the American is taken, much has been added, without, however, a marked increase in the size of the book itself, rendering it as perfect and accurate as possible up to the period of the author's decease, any alterations or additions which then became necessary in those parts which remained untouched being supplied by his friend Dr. W. Bence Jones. The former editions of this work have made it so well known that to enter on any extended notice would be unnecessary; all that may be required is, to point out such additions as may be observed. The subject of heat offers such opportunity, and we there find some additional observations in relation to change of state and sources of caloric. In chemical nomenclature and the general principles of chemical philosophy, paragraphs have been inserted here and there, illustrative of the points under consideration or enforcing the doctrines taught. Alterations may also be observed in treating of metals and their compounds, substances transposed, new compounds introduced, and the new metals, and their more important combinations described. It is in the department of organic chemistry that the greatest range is allowed by the greater progressive increase of this part of the science. The alterations and additions here made have been characterized by the good judgment previously exhibited by our author, in his selection, from the large field, of such parts as may have a particular bearing on theory or practice, without encumbering the subject with points of doubtful utility. The alcohol series, the vegeto-alkalies, and the artificial vegeto-alkalies may be adduced as exhibiting examples of this. The work may hence be considered as sustaining the reputation previously acquired, as one of the best elementary works on chemistry which are accessible to the American student.

The second work, the title of which is given above, is the production of one favourably known to us as the author of a work on "Practical Chemistry," to which this may be considered as a companion, recommending itself in a more especial manner to the practitioner of medicine by treating of subjects in which facilities of examination and means of discrimination are to be particularly desired. As a medical chemistry, it is confined to the examination and analysis of the fluids and solids of the body, and the more important animal products, together with the main points in toxicology. In this examination, chemical manipulations and tests are not solely relied on, but aid is drawn from the microscope, in detecting and distinguishing those minute forms, crystalline or other, which may have sufficient distinctive character for this method of procedure. In treating of the different subjects, a general account is given of each of the matters found associated together, and characteristic of the fluids or solids of the subjects in question in the healthy condition. The physical and chemical characters and constitution are given, and the tests by which they may be recognized pointed out, and where a crystalline or other peculiar form is assumed, the microscopic appearance is illustrated by woodcuts characterized by accuracy and neatness. Attention is also directed to the proportions which the different substances bear to each other and to the whole mass, when sufficiently constant, the occasional changes which take place in this ratio, and the causes which may produce changes without properly passing beyond the scope of healthy condition. The details of the quantitative analysis are minute, and readily followed out by one accustomed to manipulations of this kind. After the healthy condition has been fully noticed, the morbid changes pass under review, the abnormal conditions separately considered and illustrated, and

finally the methods laid down by which these points may be ascertained, either qualitatively or quantitatively. In this mode, urine, urinary, biliary, and gouty calculi, blood, milk, mucus, pus, bone, and mixed animal fluids are successively treated of, characterized, examined, analyzed, and illustrated, and the whole terminated by an account of poisonous substances and the means by which they may be detected in organic mixtures, the blood, and tissues of the body. On a careful perusal of this work, we can recommend it as one well calculated to aid the investigation of morbid changes and facilitating the microscopic examination of organic bodies, the importance of a thorough knowledge and facility in which is becoming more and more evident as the attention becomes more turned to these points.

ART. XXI.—*Human Physiology.* By ROBLEY DUNGLISON, M.D., etc. etc. "Vastissimi studii primas quasi lineas circumscripsi." *Haller.* With nearly five hundred illustrations. Seventh edition, thoroughly revised, and extensively modified and enlarged. 2 vols. 8vo. pp. 692–736. Lea and Blanchard, 1850.

ALL who would study the physiology of the human organism, whether as the basis of their investigation into its various diseased conditions, with their prevention and their cure, or simply as an important branch of liberal knowledge, will find in this new edition of Dr. Dunglison's treatise a very full, fair, and, at the same time, lucid exposition of the existing state of the science.

The work has in every part been subjected to a thorough revision. The important contributions to our knowledge of the functions of the different organs of the human body, and of the laws by which it is governed, as a living organism, derived from the labours of cotemporary physiologists, have been carefully incorporated into the present edition, while every available illustration, by means of wood and other engravings, has been adopted to facilitate the communication of clear and accurate views of the subjects treated of.

This seventh edition of Dr. Dunglison's Human Physiology will bear a very favourable comparison with either of the numerous elementary treatises that have recently appeared, and in some respects is better adapted than either of them for the use of the student, whether professional or general. D. F. C.

ART. XXII.—*Report of the Trial, "The People* v. *Dr. Horatio N. Loomis for Libel."* Tried at the Erie County Oyer and Terminer June 24th, 1850, &c. &c. Justice Mullett presiding. John Treahor and Leander J. Roberts, Associate Justices. Reported by Frederick T. Parsons, Stenographer. Buffalo, 1850: 8vo. pp. 50.

SUCH is the title of a pamphlet which we find on our table, and which, we think, demands, at our hands, a more serious notice than the mere title, as it reads, would appear to indicate. Unity of principle, of purpose, and of action, has been the dream of the enthusiast, and the object of desire to the sanguine votary of truth, to whichever of the great pursuits of life his attention may have been directed. In religion, one church; in politics, no party; in science, perfect uniformity of opinion and harmony of action, form the *ideal* of human perfection.

The calm observer of things as they are has need of little experience, in either line of life, to convince him such a condition has not yet been obtained; while the philosophic investigator of human character will probably reach the deeper conclusion, that human nature is so constituted that this result not only cannot be attained, but that it is hardly desirable. Conflict of opinion, and competition in effort, are great elements of usefulness, stimulating to nobler designs, and leading on to loftier attainments. No circumstance so effectually paralyzes human energy as the tame monotony of uniform acquiescence.

Alas, however, for fallen man! Every power conferred upon him for good purposes is perverted to evil results. The knowledge of this fact imposes upon us the necessity for constant watchfulness, lest more of evil than of good should be produced by even the soundest principles of our nature, and the most salutary influences which are brought to bear upon us. Ambition of eminence, and competition in effort, when properly regulated, lead to glorious and noble results; without the guidance of sound discretion, or freed from the control of honourable principle, they bring controversy and discord in their train, and subject their votaries to ruinous overthrow.

Whenever controversy is excited, the intensity of the feeling displayed will ever be in proportion to the magnitude of the interest involved; and to this cause we are disposed to ascribe the earnestness of those which agitate the medical profession. Lovers of peace as we all are, we yet feel that the interests committed to our care are too high to be sacrificed at the shrine of personal ease and quiet, or for the sake of professional unity. Fain would we present an unbroken phalanx against the irregular host of empirics and quacks who prowl around the great body of disease and suffering committed to our care, or, vulture-like, hover around it to prey upon its misery. This, however, may not be. All minor considerations must be sacrificed to the great duty we owe to stricken humanity; and when in the prosecution of our duty we are led into the expression of views which indicate diversity of opinion from our fellows, we hope never to be deterred by taunts of the proverbial "disagreement of doctors," such as are thrown out by one of the counsel in the case which now claims our attention, or by the imputation of motives so base as professional jealousy, imputed to the seventeen physicians of Buffalo who expressed an opinion adverse to the course which has given rise to these proceedings. Nay, instead of feeling shame when reproached with these differences of opinion, we hail them as tokens of a lively sensibility to the importance of the interests with which we are intrusted.

Within the last quarter of a century, there has been a gradual but progressive increase of the spirit of competition in medical teaching. Numerous schools, with greatly varying facilities for communicating medical instruction, have sprung up in all our great cities, and in very many smaller places. While confined among moderate numbers, and restrained within reasonable limits, the effect of the struggle for superiority was wholly salutary. When, however, descending from the high effort which should furnish the greatest amount of available and useful knowledge, and best train the mind, and develop the capacities of the student, some of our medical colleges resorted to efforts to allure classes by specious exhibitions *miscalled* "Clinical Instruction," and adapted rather to attract students by their novelty than to furnish them with solid information, a deep gulf of ruin was opened athwart the onward course of the profession, which it will require much skill, and no little self-sacrifice, to fill up or avoid. Far from us be the disposition to undervalue the benefits conferred by "Clinical Instruction;" properly conducted, it requires more skill on the part of the teacher than any other part of the system of medical education. To the student it is *indispensable;* somewhere, and under some teacher, it must be had. Happy he who finds an instructor less severe to himself, and less dangerous to his patients, than personal experiment under the guidance of his own discretion. Only at the bedside of the patient, and by daily repeated observation, can this instruction be imparted and received. In the theatre and the lecture-room, "Clinical Instruction" is not less deceptive than the name is inappropriate.

Exhibitions of operative surgery have their use, and within suitable restrictions should always be presented to medical classes. When properly introduced by the display of the reasons which demand the resort to them, and the principles on which they are conducted, they serve to familiarize the student with scenes in which he will be called to participate, and to fasten on his mind, by association, knowledge which would otherwise be loose, as it were, on his mind from the want of points of attachment. What we condemn is the substitution of this for true clinical teaching, in which the student sees and examines for himself the condition of the patient, and watches, day by day, the progress of the case whether to recovery or dissolution, and learns by direct observation,

and not by the report of another, the action of the remedies administered. The office of the judicious preceptor, himself well skilled in the science and art of medicine, affords opportunities for such instruction which should never be neglected, and which are vastly more valuable than the lecture-room of the college, and which can only be exceeded by the true sphere of clinical instruction, the wards of a large and well-regulated hospital. No other arrangement can compensate for the want of this indispensable part of the apparatus for medical education; and though circumstances may compel some students to forego the advantage, no consideration can justify the neglect to make this provision where it is within the verge of possibility, much less the expression of any doubt as to the superiority of those institutions which possess such privileges.

These remarks, bearing on the general question, have been elicited in connection with the pamphlet under consideration, which appears to us to exhibit the utmost extent to which the abuse of this mode of teaching can be carried. Happily, we are without personal knowledge of any of the parties interested, and can, therefore, come to the consideration of the subject wholly free from bias of any kind whatever. Much more congenial to our feelings would it be to praise, than to censure, any effort made with the avowed object of promoting the advance of medical education. We have given ourselves with all our energies to the advancement of the plans of improvement which have been agitated so strenuously under the auspices of the American Medical Association. Where we cannot accord commendation, we would fain be silent; but there are cases in which even silence is treason to the cause in which we are engaged. The case in point appears to us to be one of them—the more so that some of our cotemporaries have avowed their approbation of the procedure which has given rise to the trial reported in the pamphlet.

Some months since, we heard reference to the excitement which had been created among the people of Buffalo by an attempt, on the part of the faculty of the Medical College established in that city, to introduce "Demonstrative Midwifery" into their course of instruction. Having ourselves enjoyed the benefit of such instruction while a pupil, knowing that it was still afforded to the students of this city, and accustomed to esteem it as highly important, we were not a little surprised to find it considered a novelty anywhere, and yet more to understand how it could be made a subject of popular odium. When, however, we came to be apprised that the *improvement* consisted in subjecting the process of parturition to *ocular* inspection in one of its stages, our surprise at the excitement yielded to astonishment that any teacher of the obstetric art should suppose it could be made the subject of the sense of vision, and mortification that the medical profession should have been placed in a position so well calculated to array public feeling in hostility to it. We never understood the full details of the case until we had read the report of the trial and the testimony of the witnesses. From this it appears that the professor supposed he had discovered that it was possible, by stethoscopic exploration of the abdomen of the pregnant female, to determine beforehand the probable presentation of the child at the time of parturition. To verify this discovery, he induced Mary Watson, an *unmarried* female, pregnant the second time, to submit first to this exploration by some, if not all, of the members of the graduating class under his direction. From the position in which the pulsations of the fœtal heart were heard most plainly, the professor decided, and so announced to the class, that the presentation was one described as "occiput to the right posteriorly, face left anteriorly." When the time for delivery arrived, the same woman was brought into a room in the college building, where she was fixed comfortably for her confinement, under the care of the wife of the janitor, who was to act as her nurse. The gentlemen who had previously made the stethoscopic exploration were now again summoned to be present during the labour, and one by one were permitted to make the usual vaginal examination. How often during the several hours of labour this was done by each, we are not told. Certainly, unless so frequently repeated by the whole body as very materially to annoy the woman, and interrupt the regular course of labour, but little knowledge could have been derived by each. If the progress was reported by

the professor or one of their number, they could derive no personal benefit from their presence in the chamber. Be this as it may, however, *one great error* appears to have been committed in this stage of the procedure. We were taught by one esteemed throughout the civilized world as no second rate master of his art, that such a presentation is faulty, and should be remedied in the *early* stage by bringing the occiput into such a position as would permit it to emerge under the arch of the pubis, while the face followed the curvature of the sacrum.

In the ardour of the professor for the new mode of diagnosis, he omitted this first duty of the accoucheur, and permitted the life of both mother and child to be put in jeopardy, through the necessary tediousness of the delivery by this false position. During all this time, however, the claims of modesty were regarded, the students maintained a proper decorum, and the woman lay covered on the bed. When, however, the head was about emerging, the clothing was so far removed as to permit the exhibition of the application of support to the perineum, and the manner in which the head issued was precisely such as had been foretold. She was then again covered, the cord tied, the placenta delivered, and the class dismissed. The woman appears as a witness in the case, and testifies that she recovered well, and has no complaint to allege of indecorous exposure or improper treatment. This we believe to be a plain, honest narrative of the events as they occurred, and we protest against every stage of the proceeding, and shall presently endeavour to justify our objections.

We do not design to enter at large into the question of morals, and yet we cannot allow it to pass wholly unheeded, as it has entered so largely into the local discussion of the case. We have no fear of placing ourselves in the position so contemptuously alluded to by the legal advocate of the faculty, and some of our scientific cotemporaries, nor are we disposed to abandon the defence of the superior moral tone of our own happy country over the older and more corrupt societies of Europe. One of the witnesses avers that "he doubts whether the morality of the French is any lower than in other countries. There is not that *cloak of hypocrisy* thrown around their actions that there is in this country." Now we have always been taught to think that "hypocrisy is the tribute paid to virtue by vice;" and that no stronger evidence of the prevalence of a low tone of moral feeling in any community can be found than the fact that virtue no longer possesses the desire to guard itself, or else has been stripped of the power to enforce the *homage of the cloak.*

We coincide in one thing only with the witnesses for the prosecution; and that is in the opinion that such an exhibition could have no effect in inciting "libidinous emotions." We cannot conceive of the degree of degradation in which such a result would be produced by the spectacle of the hour of nature's extremity. This would, however, be but a short-sighted view of the premises. The unnecessary exposure of those parts of our frame which have derived their common appellation from the natural instinct which prompts to their concealment, shocks the moral sensibility, diminishes the moral feeling, and debases the moral man. The knowledge of this fact has given rise to those enactments of common law by which the community protects itself from outrage by any who may have lost the sense of shame through familiarity with corruption, or who have not been endowed with proper moral sense; and medical men, we apprehend, should be the last to promote any measures which would abate this high sense of delicacy. Our intention, however, was to pass wholly unnoticed this point of the subject, and to devote our remarks entirely to the consideration of what we conceive to be the error of the case as regards medical education.

Even those witnesses who most earnestly commend the course of the Buffalo professor are careful (with, we believe, only one exception, which we shall notice presently) to declare that, however advantageous to the *pupil, ocular* assistance is never, or at most very rarely, resorted to by the practitioner in the walks of private life. Now it is not a little surprising that none of these gentlemen should have referred to a fact, well established and commonly known, that skill in practice is always proportionate to concentration of attention. It has been our lot, however, to have the opportunity of observing the progress of education of the blind. There experience has taught us that no pupils are so

slow in acquiring facility in reading by the fingers as those who have some lingering remnant of vision; the division of the attention between the two avenues of information produces distraction of thought, and obscures the impression. Now this we apprehend to be a parallel case, and the instinctive closing of the eyelids, which is so common an act of the accoucheur when making a vaginal exploration, confirms this view. If taught to depend, *in any degree*, on vision, whilst prosecuting his studies, the practitioner will feel strongly tempted to the same resort; and we much mistake the temper of the American woman, if such a violation of her sense of propriety will be tolerated. It is, indeed, in our remembrance that the very presence of a male practitioner in the house was scarce endured; and then only from consideration for the wishes of a husband or friends, to whom the life of the wife and mother was too dear to permit its being placed in jeopardy. Now we apprehend the most sturdy defender of "ocular demonstration" will hardly venture to assert that the risk of life can be at all diminished by that mode of observation. They all admit that they have practiced with success, and comfort to themselves and patients, without it. There seems, indeed, no little discrepancy between their views, when justifying the propriety of looking at the process, and when attempting to screen themselves from the charge of unnecessary exposure. In the one case, sight is represented as affording great advantage, while, in the other, they aver they saw nothing, or, what amounts to the same thing, the hand of the accoucheur holding a napkin to the perineum, and the hairy scalp of the child emerging from the pudenda. Now, if this was all that was seen, we would ask, what possible advantage could be derived from the inspection? For all purposes of interference or assistance, the labour is over, unless convulsions, or fainting, or suspension of expulsive effort should supervene, and neither sight, nor "second sight," nor clairvoyance, will render any aid in these circumstances. It is too late to effect any change in the position of the child's head in relation to the mother. However false those relations may be, its only course must be onward. This brings us to the consideration of some extraordinary fallacies which are repeated by several of the witnesses.

One compares the difference between the knowledge of the progress of the labour acquired by the touch without the sight to that which would follow from a verbal description of the watch in his pocket as compared with an inspection of an opened time-piece, and an ocular examination of its intricate mechanism. Another speaks of the difference between looking at the picture of a plough and having the instrument itself submitted to examination.

All this would be perfectly applicable to the difference between seeing and hearing in the case of insensible and inanimate bodies; but what can be seen through the abdominal parietes of the living woman, or the dense bones and muscles of the pelvis and the tortuous passage of the vagina? Literally, *nothing*. Hence the resort to machines, and mannikins, and paintings, by which the processes are *actually shown*, just as the experienced and accomplished teachers of obstetric science know, from repeated observation and careful study of the relations of the different parts to each other, they really exist.

By the study of the mechanism of labour, the measurements of the passages through the pelvic straits, the relations of the axes to each other and those of the head of the child in its various modes of presentation, and to other parts when they present, and the careful examination of the plates with which our works on midwifery are freely illustrated, we venture to affirm a more accurate knowledge may be acquired of the course of labour, and of the means by which it is to be assisted when assistance is needful, than by the witnessing of any conceivable number of such exhibitions as that which excited what we cannot but consider the proper reprehension of so large a body of the medical men at Buffalo. When the knowledge which can be thus obtained has been fixed in the memory, and tested on the machine, let the student be carried by his preceptor, or by some competent person to whom he can delegate the task, and permitted to acquire the confidence in his knowledge which can only result from its actual employment at the bedside of the patient. Let him, with all the decorous observances which were so carefully instilled into their pupils by the fathers of obstetric science, "take a pain," measure the capacity of the pelvis, deter-

mine the presenting parts, and the adaptation of the passages to permit the extrusion of the fœtus, and, without the violation of his own sense of propriety, or the delicacy of the female, he will become "an expert" in ministering to the relief of those whose pangs demand our sympathy, and should command our respect. Twenty-five winters have passed over our head since first we were inducted into the practical application of the knowledge thus acquired. In those years we may safely say that almost every possible complication of labour has been presented to our notice—often, too, requiring the aid of older and more skilful operators—and never, in that whole period, has a case occurred in which it became proper or necessary to resort to any other sense than that of touch. We know, moreover, that we do not err when we assert that such is the opinion and experience of those who hold the highest position in obstetrical practice in this city; and we feel no hesitation in challenging, for the professors of that branch in our two principal institutions for medical teaching, an equality with any rival teacher, whether at "Giessen," "Prague," "Amsterdam," "Dublin," or "Paris."

We have not yet, however, reached the conclusion of this review. We have alluded to the testimony of one witness as being singularly liable to exception, and therefore deserving of especial notice. We feel peculiarly reluctant to condemn the evidence given in this instance, since it is offered by the only witness with whom we can claim the privilege of personal friendship. We cannot, however, permit even this consideration to warp our judgment in such a case. We allude to the testimony of the Professor of Obstetrics in the College of Physicians and Surgeons of the city of New York. The institution we honour—the man we esteem; and we dwell with grateful recollection on the noble stand they have taken in support of the cause of medical reform. We found it almost impossible to believe that from such a quarter the assertion should proceed that he approves of the practice of "ocular demonstration" in obstetrics applied to the living female, and would be glad to see it established in his college to-morrow! "It is often," says the Professor, "necessary to turn the child in the uterus. In turning the fœtus, it has been *his practice to expose the woman entirely.* Does not recollect of ever taking but three of his students with him on such occasions. Would have no objections to students being present—not at all. Would prefer it, if practicable. On such occasions, *the woman is exposed, so far as clothes are concerned,* ENTIRELY." We will waive our objections to the tone of the greater part of the testimony of this witness, and ground our condemnation simply on the question, What possible aid can the eyes furnish? Can they detect the position of the feet of the fœtus through the walls of the uterus and the parietes of the abdomen? Can they ascertain the contraction or relaxation of the womb, by the amount of which the time for action or quiescence is to be determined? Why expose the person of the woman at all? The doctor himself tells us "it would be just as improper to expose two inches below the collar bone as two feet, if it were unnecessary." Most gladly would we learn in what consists the necessity for the exposure of *one inch* of the superficies. *We* should consider it quite as unnecessary as another part of the professor's proceeding, which consists, he says, in laying "the patient upon her posteriors *upon a table, with the person entirely exposed.*" Truly, we cannot be surprised that he has found "turning the fœtus a *very dangerous* and difficult operation—the life of the mother is often in danger." Surely, no diminution of that danger can result from the removal from the bed to the "table" with "the person entirely exposed." We think there must have been some error of the stenographer in this case, or that the professor intended to describe his manipulations with the machine and mannikin, in which event we should think his conduct most praiseworthy. Throwing off not only "all covering," but the insensate leather which represents the abdominal muscles and anterior parietes of the uterus, he would very properly and greatly to their advantage exhibit to his class the manner in which he would search for and seize upon that foot which would exert traction in the proper line, and then permit them to witness the beautiful evolutions of the child in obedience to his skilful effort—nay, we hope he would go still further, and, calling upon the students one by one, would encourage them to practice with their own hands

that which he had thus instructed them to accomplish. We would fain recall to his remembrance the modest suffusion of face with which our much honoured and loved James presented to his class, when side by side we occupied the hard benches of our alma mater, the inanimate body of some despised woman, for whom no one had cared either living or dead—the grave decorum with which even the "machine" was deposited on the table—and then ask him which course was most likely to produce in the mind of the pupil the appropriate condition of feeling, when called to perform the delicate services which are required in those rooms from which *every ray of light is so sedulously excluded* before the male obstetrician is admitted within its precincts. If anything can bring about the recurrence of those days when modest women refused scientific assistance, and intrusted their own lives and the happiness of their husbands and children to the hands of ignorant midwives, it certainly is the prevalence of such sentiments and practices as those advocated by the Professor of Obstetrics in the College of Physicians and Surgeons of New York. We hope to find him repudiating the report of his testimony.

In closing this article, we would repeat the expression which has fallen from us incidentally at an earlier period of our remarks. The great error into which we are now invited is the transferring all medical instruction from the office of the actual practitioner to the class-room of the lecturer and demonstrator. There must be in this, as in all the other pursuits of life, a subdivision of labour. While principles are to be instilled in our colleges, and the student furnished with those rich stores of knowledge which have been acquired by the thought and experience of learned teachers, the practical application of those principles belongs certainly to the private preceptor. C. M.

Art. XXIII.—*The Principles and Practice of Dental Surgery.* By Chapin A. Harris, M. D., D. D. S., Professor of Principles and Practice of Dental Surgery in the Baltimore College of Dental Surgery, Fellow of the Am. Soc. of Dental Surgery, &c. &c. Fourth edition, revised, modified, and greatly enlarged. With 200 illustrations. Philadelphia, Lindsay and Blakiston, 1850: pp. 803, 8vo.

This work of Dr. Harris has the qualities and enjoys the reputation of a standard text-book in the profession. Its popularity has within a very short period exhausted the three previous editions, and the rapid advancement of dental science makes frequent republication necessary in order to give place to the new matter demanding insertion. Dr. Harris is justly held to be eminently qualified for the important post of professional authorship, and he has devoted his fine talents and large attainments to this duty with an industry and enthusiasm which are sure to keep him abreast of all real progress in discovery and improvement. This edition, we observe, is enlarged by the addition of forty-five new engravings, and four new chapters on filling teeth and mechanical dentistry. The table of contents intimates a thoroughly scientific method as well as great comprehensiveness in the range of subjects embraced, and the body of the work fulfils this promise by a rare union of excellence and completeness in practical detail with philosophic truth in theoretical discussion. By the way, we could not help being again impressed, as we looked over the various array of topics which the book contains, with the necessity of giving to dentistry the rank and responsibilities of a separate profession. Here we have the anatomy, physiology, and pathology of the teeth, mouth, and nearly related organs produced in a manner at once minute, profound, and comprehensive; and their therapeutic treatment exhibits all the qualifications of the physician and surgeon. Besides, there is the large department of mechanical dentistry which makes room for the best faculties of artistic taste and skill of handicraft. It is, moreover, matter of no little pride and pleasure that we notice the frequency and importance of the contributions to dental science which the work credits to native talent. American dentistry seems to be earning for itself an enviable rank in the world's regard for services rendered to

the general cause of science, and the devotion of such men as our author, and a goodly number of honourable names besides, to the improvement of the profession by all the means and appliances of progress, are ample security for both its rapidity and permanence. The engravings are not only very numerous, but very good; and, if we may judge from their clear and satisfactory teaching to the eye, they must greatly enhance the value of the work. No pains or expense seems to have been spared in the illustrations, materials, or style of the book. We make no extracts, and specialize no points of principle or practice in the work, for it needs no such introduction *now* to the professional public. One thing seems lacking, however, in the work, and we recommend it to the author's attention in the next edition: to wit, the effects of *tobacco* on the teeth and gums, and, if he please, the *general* health besides. Directly opposite opinions are held, or at least *pretended* alike by men in the profession and those who are only in the *practice*, and the decision of the question is of importance for more reasons and in more ways than one. Dr. Harris is every way qualified for the investigation, and, understanding that he has been some time engaged in experimenting upon the point, we hoped to find the result in the work before us; but we confess to some surprise as well as regret in our disappointment.

If the Dr. *choose*, we will be obliged to him for the amendment we ask.

E. T.

ART. XXIV.—*Materia Medica and Therapeutics; with ample Illustrations of Practice in all the Departments of Medical Science, and very Copious Notices of Toxicology, suited to the Wants of Medical Students and Practitioners.* By THOMAS D. MITCHELL, A. M., M. D., Professor of the Theory and Practice of Midwifery in the Philadelphia College of Medicine, etc. etc. 8vo. pp. 736. Philadelphia: Lippincott, Grambo and Co., 1850.

THIS is, strictly speaking, a treatise on the curative properties and modes of administration of the several articles composing the materia medica, interspersed with remarks on their therapeutic application, and a history of the poisonous action of those most liable to exhibit this effect, with directions for its proper management when it occurs.

The work presents in the main a very fair exposition of the remedial effects of the various therapeutic agents in common use, and of the leading circumstances of disease under which their curative powers are exhibited. The author's therapeutical views will in general be found to be correct, and his estimate of the value of the different remedies to be in accordance with the recorded observations of the best practitioners. In a few instances, it is true, he has failed to notice all the circumstances under which certain articles of the materia medica have been found to exert an important curative influence, and in consequence of his having adopted an alphabetical arrangement, occasionally the particular stage and condition of disease to which the remedy described is appropriate are not pointed out with that clearness and precision which are essential to enable the student especially, to understand its proper therapeutical application.

Notwithstanding these defects, and perhaps the neglect of a few important authorities of our own and other countries, in reference to the remedial powers, and best plan for the administration of certain remedies, the work is still highly creditable to the abilities, professional skill, and industry of the author. To the student it will communicate a correct general outline of the materia medica and of therapeutics, while the physician also may consult its pages with the certainty of deriving from them much useful practical information. For, though the work cannot be viewed as a complete or perfect treatise on either of the branches embraced in it—still, all that it does teach bears the impress of truth, and is adapted to lead, generally speaking, to correct views of the materia medica, and of their proper therapeutic employment.

D. F. C.

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *On a new Form of Smooth or Non-Striated Muscular Fibre.*—Prof. Kölliker describes the smooth muscles as composed of short, isolated fibres, each containing a nucleus. He calls them muscular or contractile fibre-cells, and gives three varieties:—

1. Short, round, spindle-shaped, or rectangular plates, like those of epithelium, 0.01‴ long, and 0.006‴ broad.

2. Long plates of irregular, rectangular, spindle or club-like shape, with fringed edges, 0.02‴ long, and 0.003‴ broad.

3. Narrow, spindle-shaped, round, or flat fibres, with fine ends which are either straight or wavy, 0.02‴, or even 0.25‴ long, and 0.002‴ to 0.01‴ broad.

The first and second of these forms are only to be found in the walls of vessels; the first may be mistaken for the cells of epithelium.

These muscular fibre-cells are composed of soft light yellow substance, which swells in water and acetic acid, in which last it becomes of a paler colour. There is no appreciable difference between the outer and inner parts, though in acetic acid it would seem as if each fibre-cell had a delicate covering. Their substance is homogeneous, with longitudinal stripes; and they often contain small pale granules, sometimes yellow globules of fat. Each fibre-cell has without exception a pale nucleus, sometimes only perceptible in acetic acid. Its form is peculiar, being like a small staff rounded at each end. The substance of the nucleus is homogeneous; its length is 0.006‴—0.004‴; its breadth 0.0008‴—0.00013‴. The muscular fibre-cells lying side by side or end to end, form the smooth muscles as they appear to the naked eye. They may be divided into:—

1. Purely smooth muscles containing no other tissue: such are those of the nipple, corium, of the interior of the eye, of the intestines, of the perspiratory glands of the axilla, of the cerumen glands of the ear, of the bladder, of the prostate, of the vagina, of the small arteries, of the veins and lymphatics.

2. Mixed smooth muscles, which contain, besides the muscular fibre-cells, cellular tissue, nuclear fibre, and elastic fibre: such are the trabeculæ of the spleen and corpora cavernosa of both sexes. They are also found in the tunica dartos, gall-ducts, the fibres of the trigonum vesicæ, the circular fibres of the larger arteries and veins, the long and transverse fibres of the prostata, urethra, Fallopian tubes, and of the womb; they change by imperceptible transitions into the first form; this is the case in the trachea, bronchi, urethra, the inner muscular layer of the testicles, seminal ducts, &c.

Kölliker says, that he has found smooth muscles in the skin to a far greater extent than is generally supposed. In the subcutaneous cellular membrane of the scrotum, penis (prepuce), and the anterior portion of the perineum, they are well developed. The greater number seems to exist in the tunica dartos;

in the perineum and prepuce there are fewer. In the tunica dartos, they form a muscular coat resembling, on a small scale, the tissue of the bladder. In the nipple and areola (especially in the female), the smooth muscles are strongly developed, somewhat resembling those of the tunica dartos, but having no fibrous covering. In the areola, up to the base of the nipple, they are arranged in circular order; in the nipple, they are circular and vertical, the ducts passing between them. Some lie in the corium and form the corpus reticulare; others belong to the subcutaneous tissue. Smooth muscles are also found in every part of the body covered with hair, in the hair-bulb, and in the upper portion of the corium. In the parts not covered with hair, such as the palm of the hand, the smooth muscles are wanting. One or two bundles of muscular fibre encircle each hair-bulb or sebaceous gland. Kölliker remarks that the tensor choroideæ does not insert itself into the processus ciliaris, but that it lies flat on its anterior surface, and that it arises from the canalis schlemmii. The sphincter pupillæ, he says, may be easily seen in the eye of the white rabbit, and in the blue eye in man, on removing the uvea. In man it is ¼‴ broad, and forms the pupillar edge of the iris. He has also observed a muscular ring near the annulus iridis minor. The dilator pupillæ does not form a continuous membrane, but seems to consist of isolated bundles of fibres passing between the muscles to insert themselves in the edge of the sphincter. He has never seen the anastomosis of these fibres mentioned by Todd and Bowman. The writer thinks that the elements of all these muscles are smooth muscular fibre, though he admits that he has seldom succeeded in isolating the muscular fibre-cells in the human body. He does not think that the M. cochlearis discovered in the ear by Todd and Bowman deserves the name of a muscle; he is rather disposed to consider it as a ligamentous structure, and calls it the ligamentum spirale; he looks upon it as a means of attachment for the zonula membranacea. Remarking that the smooth muscles of the intestines resemble one another in their histological characters, he points out one peculiarity, viz., that they present a knotty appearance with ends running out into fine spirals. He thinks that it is not improbable that the knots are due to a contraction of the fibre. The fibre-cells of the intestine seem to be striped as if they were composed of an envelop and some homogeneous striped contents. No nuclear fibre is found among them, but they are covered and bound together by cellular membrane.

The small perspiratory glands seldom possess smooth muscular fibres, although these are always present in the large perspiratory glands of the axilla, and in the cerumen glands of the ear.

Kölliker does not admit the presence of muscular fibre in the lacteal glands.

In the lungs, he finds that the structure of the small and large bronchi is the same. Outside of the epithelium, they present a layer composed of longitudinal fibres of areolar tissue, and a number of strong, fine elastic fibres. Then follow one or more circular layers of smooth muscular fibre, with some nuclear fibre running transversely; lastly, a layer of cellular tissue, with nuclear fibre. He never could find muscular fibre running longitudinally through the bronchi. With respect to the vesicles of the lungs, he could come to no satisfactory conclusion. Long nuclei are seen in the walls of the vesicles, but they are not so long and narrow as those of the smooth muscles, and appear to him to belong to the capillaries. The smooth muscles of the trachea and bronchi resemble in their elements those of the intestines. In the ox, the gall-bladder, the ductus cysticus, d. choledochus, and the ducts lying out of the substance of the liver, present a large amount of muscular fibre of the smooth species. It is strongly developed in the canals, in which it is so disposed longitudinally; in the gall-bladder this is not so much the case, a transverse, and even an oblique layer of fibres being placed between the two longitudinal layers. In the human body, the muscular structure is very faintly developed in the gall-ducts. Kölliker could only discover a very delicate layer at all approaching muscular fibre. In the pancreatic ducts of the human body, no trace of muscular fibre exists. In the lachrymal apparatus, there are no muscular fibres; in the ductus stenonianus, none; the ductus whartonianus has a very faint layer of smooth muscular fibre.

No part of the internal structure of the kidney shows traces of muscular

fibre; it is only in the calices and pelves that it becomes apparent. The muscular fibres of the pelves and calices are composed of an outer longitudinal coat, and an inner transversal layer; they are continuations of the same in the urethra, and all partake of the general characters of smooth muscular fibre. Supposing the disposition of the muscular fibres of the bladder to be well known, the writer observes that the trigonum vesicæ consists of a pretty strong layer of pale yellow fibres immediately under the mucous membrane; this is to be considered as an expansion of the longitudinal fibres of the urethra.

The canaliculi of the testes have no muscular fibres, but on the inner side of the interior surface of the tunica vaginalis communis, smooth muscular fibre is evident. The vas deferens presents a thick layer of smooth muscular fibre, forming an outer longitudinal, a middle transverse, and an oblique layer directly under the mucous membrane. The canaliculi of the epididymis present the same conditions of their walls as the vasa deferentia. Kölliker thinks he has seen some muscular fibres in the body of the epididymis. The ductus ejaculatorii are formed like the vas deferens; the seminal vesicles present also the same conditions. Both coverings of the prostate that derived from the seminal vesicles, and its own peculiar covering, are more or less muscular.

The pars membranacea urethræ possesses but little smooth fibre, compared with the prostate. Under the mucous membrane (whose cellular tissue is rich in elastic or nucleus-fibre) there is a layer of longitudinal fibre, mostly composed of fibro-cellular membrane, containing nuclear fibre and contractile fibre-cells; this layer is succeeded by another of transverse fibre belonging to the musculus urethralis; it also contains smooth muscular fibre. In the pars cavernosa urethræ the fibres are but slightly developed; but they are still found at a certain depth.

The corpora cavernosa may be considered as highly developed muscular structures, furnished with peculiar blood-vessels, since the smooth muscular fibres exist in the fibrous septa even in the glans.

The inner portions of the uropoietic viscera in the female resemble those of the male with regard to their structure. The urethra has, besides the longitudinal fibres, a transverse layer of smooth muscular fibre. The Fallopian tubes have a thick middle layer of longitudinal and transverse fibre; the elements of which are smooth muscular fibre-cells, with moderate-sized nuclei. The smooth muscular fibre is with difficulty isolated in the virgin state; but in the gravid uterus it is seen in great perfection. In the fifth month, Kölliker saw bundles of red fibre of the smooth muscular kind, mixed with cellular membrane, without nucleated fibre; the fibre-cells were spindle-shaped, and very long. As pregnancy advances, no new cells seem to form; but those already formed increase in size. Sometimes they measure $\frac{1}{10}'''$—$\frac{1}{4}'''$; they are spindle-shaped, and run out into long, thin tails. After birth, they rapidly decrease in size. The middle or vascular layer of the uterus is rich in smooth muscular fibre; it differs only from the inner and outer coat, in the fibres crossing each other in every direction.

The ligamenta uteri anteriora et posteriora present a red fibrous tissue, enclosed in the two folds of the peritoneum; in this, smooth muscular fibre may be traced. In the ligamenta ovarii, very few are found. The ligamenta rotunda contain smooth muscular fibre: during pregnancy, they swell; and then the fibres seem to increase in size. The writer says he has seen muscular fibre in the lower portion of the anterior fold of the peritoneum; on the ligamenta lata these fibres expand between the folds, and he even thinks that they insert themselves in the walls of the pelvis. Directly under the mucous membrane of the vagina, a layer of muscular fibre exists stretching from the bottom of the vagina to the vestibule, and containing a thick plexus of veins; it is composed of longitudinal, but more especially of transverse, long fibre-cells with wavy ends. The structure of the clitoris, glans clitoridis, bulbus vestibuli, &c., is analogous to that of the corpora cavernosa in the male.

In the spleen of the human body, Kölliker has never been able to discover smooth muscular fibre, either in its covering, or in the larger fibrous bands; but in the microscopical fibrous bands he has found elements which he thinks are of a muscular nature. He also states that in birds, reptiles, and fishes he

has found some muscular fibre in the fibrous bands of the spleen. The existence of smooth muscular fibre in the blood-vessels and lymphatics is indubitable; Kölliker recommends the middle-sized arteries and veins for examination. In the aorta and trunks of the pulmonary arteries, the middle coat is composed alternately of muscular and elastic membrane, with fibro-cellular tissue. These muscles consist of fibre-cells, containing nuclei. The larger veins of the human body present, externally to their lining, a single or double layer of elastic fibre, a simple coat of transverse muscular fibre-cells, mixed with cellular tissue, to which succeeds externally a coat of longitudinal fibres. In the middle-sized veins, there is a middle coat of a pale reddish colour, composed of alternate transverse and longitudinal fibres; the former are of fibro-cellular tissue, and contractile fibre-cells. Towards the periphery, the muscular structure decreases. The veins of the uterus, which in the unimpregnated state present no peculiarities, acquire a great development during pregnancy with regard to length and organization. This does not so much proceed from the thickening of their walls as from the increasing size of the fibre-cells existing in the middle coat before pregnancy, and in certain changes in the outer and inner coat caused by their acquiring a considerable quantity of smooth muscular fibre. The very large veins which pierce the inner muscular coat of the uterus at the point of attachment of the placenta, and which communicate with its uterine portion, make an exception to this rule, as they have only longitudinal muscular coats, which with the epithelium form the walls of the vein.

The following veins have no muscular structure:—

1. The veins of the uterine portion of the placenta.
2. The veins of the cerebral substance, which are formed of epithelium and cellular membrane.
3. The sinuses of the dura mater.
4. Breschet's veins of the bones.
5. The venous cells of the corpora cavernosa in the male and female.
6. Probably the venous cells of the spleen. The muscular fibres of the lymphatics are like those of the veins; they exist sparingly in the trunks, and in greater number in the smaller branches.—*Kölliker and Siebold's Zeitschrift*, 1849.

[We have given this full analysis of Professor Kölliker's laborious researches on the new form of organic muscular structure discovered by him, on account of the importance which we attach to his results. It is obvious that the long fibre-cells, which he was the first to describe, constitute the simplest form of the proper contractile tissue of animals, save that nearly homogeneous nucleated blastema which seems to constitute a yet earlier stage in organic development. The lengthened non-striated fibre may be conceived to owe its origin either to the elongation or to the coalescence of these fibre-cells, as indicated by their persistent nuclei. And in the highest form of muscular fibre, the contractile power no longer exists in the original or parent-cells, but is delegated to the fibrillæ generated within them, each of which consists of a linear series of cells of much more minute size, probably holding the same relation to the series of parent-cells, of which the entire fibre seems to be composed, as the secreting-cells of a gland do to the follicle within which they are generated.]—*Brit. and For. Med.-Chirurg. Rev.*, July, 1850.

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2. *Structure of the Membrana Tympani in the Human Ear.*—Mr. Joseph Toynbee, in a paper read at the Royal Society on the 20th June, describes the membrana tympani as consisting of the following layers, quite distinct from each other, both as regards their structure and functions.

1. Epidermis.
2. The proper fibrous layer, composed of
   a. The lamina of radiating fibres.
   b. The lamina of circular fibres.
3. Mucous membrane.

One of the principal objects of the paper is to describe the structure and functions of the fibrous laminæ. Since the time of Sir Everard Home, who

pronounced the layer of radiating fibres to be muscular, anatomists have differed in their views of the nature of the fibrous element of the membrana tympani. The lamina of radiating fibres, the outer surface of which is covered by the epidermis, is continuous with the periosteum of the external meatus. With the exception of the uppermost fibres, which, on account of their being somewhat flaccid, have been considered as a separate tissue, under the name of "membrana flaccida," the radiate layer is composed of fibres which extend from the circular cartilaginous ring to the malleus, and they interlace in their course. These fibres are from the 4000th to the 5000th parts of an inch in breadth.

The lamina of circular fibres consists of fibres, which are firm and strong towards the circumference, but very attenuated towards the centre. These fibres are so attached and arranged as to form a layer of membrane which, in a quiescent state, is saucer-shaped. The fibres composing the circular are smaller than those of the radiate lamina, being from the 6000th to the 10000th part of an inch in breadth.

The facts that appear to be adverse to the idea of the fibres of either layer being muscular are:—

1. The absence of distinct nuclei in the fibres.
2. Their great denseness and hardness.

The four laminæ forming the membrana tympani are continuous with the other structures, of which they appear to be mere modifications, and not one is proper to the organ.

The tensor tympani ligament, which had not been previously noticed by anatomists, is particularly described by Mr. Toynbee in the paper read before the Royal Society. It is attached externally to the malleus, close to the insertion of the tensor tympani muscle, and internally to the cochleariform process.

The latter part of the paper is occupied by observations on the functions of the fibrous laminæ, and of the tensor ligament of the membrana tympani; and it is shown that by these two antagonistic forces, the one tending to draw the membrana tympani outwards, the other inwards, this organ is maintained in a state of moderate tension, and is always in a condition to receive ordinary sonorous undulations.—*London Journ. Med.*, Aug. 1850.

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3. *Structure of the Liver.*—Professor Retzius has examined the liver in the human being, in the dog, cat, rabbit, squirrel, pig, and ox; and his researches have been, on the whole, confirmatory of the views of Mr. Kiernan. He has, some time since, stated his opinion that the liver is originally acinose or lobular, but that, by various changes, the acini or lobules may become confused; but they may regain their distinctness, under favourable circumstances. A portion of the liver of a child six months old was examined. Before injection, the lobules were distinct; but in the injected preparation, where the capillaries were entirely filled, there was no trace of interlobular partitions nor of cellular alveoli. The lobular structure was only shown by the white injection (white-lead), which was forced through the hepatic veins and their lobular branches into the central capillaries of the acini. The acini were thickly surrounded by an abundance of capillaries from the portal vein; but even these did not indicate any distinct limits to the acini. In many places, the lobular capillary network was entirely filled by the injection thrown into it from the portal vein. It was evident from this specimen, that already in the sixth month after birth, the portal venous system, which has during intra-uterine life formed a part of the umbilical venous system, possesses a development far surpassing that of the hepatic vein. In large patches, especially in the right lobe, the injection, which was thrown into the portal veins, occupied the whole of the parenchyma, with the exception of the network of the hepatic ducts, and the central vessel. In other places, the injection had not passed into the finer portal twigs; while the twigs of the hepatic artery, and the adjoining capillaries, were well filled. These arterial twigs gave a lobular or acinose appearance to this portion of the organ. This was especially the case at the surface, where the round ends of the intralobular vascular plexus were raised in the form of small white knots.

The circumference of these lobules was partly uninjected, partly occupied by the network of the hepatic ducts. In the parts which the perilobular injection had not reached, there was an appearance of lobules with large interspaces; but where it had perfectly penetrated, the smaller interlobular plexuses were entirely effaced. Where a longitudinal section had been made through the lobules, they were found, as Kiernan had represented, thickly set on the intralobular (sublobular) twigs, like sessile leaves, surrounded by a portal and biliary capillary network.

Especially interesting, in a well injected preparation, are the ultimate sheaths of Glisson's capsule, which follow the ramifications of the portal vein through the entire organ, until it gives off its perilobular twigs. Professor Retzius has been able to determine a remarkable fact, which Mr. Kiernan, though he had systematically rendered it probable, had not so successfully described—that the biliary ducts form a network in the walls of this sheath, continuous with that in the lobules. The vessels surrounded by this sheath are, a pretty large portal twig, a somewhat smaller twig of the hepatic duct, and a small twig of the hepatic artery. These Glissonian sheaths appear to be situated where one would expect to find the perilobular septa. When the hepatic ducts are well injected, the sheaths are seen like rings, having the colour of the biliary ducts, with their walls covered or interwoven with a capillary biliary network, of as fine meshes as the lobular network. Mr. Kiernan has without doubt seen this, and described it under the name of "vaginal branches" and "plexus." From this vaginal plexus a network of biliary ducts proceeds in all directions, becoming interwoven throughout with the capillary vascular network; it also penetrates into the lobules. The only circumstance in which Professor Retzius differs from Mr. Kiernan, is that the latter describes as twigs or branches the extension of the biliary ducts, while it is in fact a network, in which neither stems nor branches can be distinguished.

The principal results at which Professor Retzius has arrived from the above examination, and from similar examinations of the liver in the lower mammalia, are the following:—

1. That the liver is originally lobular; but that the lobular structure may undergo various changes, and present various appearances of development. There may be confusion of the lobules, in conjunction with more or less regular development of the ramifications of the hepatic vein. That which is most in favour of the presence of the lobular type is the constancy of the alveolar biliary network.

2. That the perfect biliary ducts, with their peculiar walls (the basement membrane of the English anatomists), without which they could not be perfectly injected, are regularly disposed tubes. Professor Retzius has also been able to directly determine the presence of this membrane; and has found it, as described by Schrœder van der Kolk, a simple membrane, surrounding the angular as well as the round hepatic cells. This basement membrane may be rendered apparent by macerating a liver in ether, then drying it, and cutting extremely thin slices. These become transparent when laid in water, and exhibit the proper membrane of the finest biliary network in single outline, surrounding the cells.

3. That no arterial network has been found in Glisson's capsule. The regular distribution of twigs from the portal vein and hepatic artery was not perceptible; but the perilobular vessels chiefly appeared as a network; and there appeared no regular or perilobular type in the larger twigs. In two other specimens from children of three years old, elegant hexagonal lobules were seen. In one of these, the injection of the hepatic artery had succeeded remarkably well. Besides the fine long twigs on the surface, each lobule had its own perilobular capillary network, of extreme fineness; but in none of these was the network of the portal vein so distinct, as the injection had penetrated into the network of the lobules, so that the periphery became less distinct. In one of these preparations, the perilobular part of the portal vein was seen giving off triradiate angular branches (*dreizweigige Eckenzweige*), as well as the regular peripheral twigs.—*London Journ. Med.*, Jan. 1850, from *Müller's Archiv.* 1849, Heft 2.

4. *A newly-discovered Anastomosis between the Vena Porta and the Vena Cava Inferior.*—M. Claude Bernard describes the following vascular arrangement which he has discovered, and the use of which he states to be the direct mingling of the abdominal portal blood with the systemic venous blood. Immediately after the portal vein has entered the liver, frequently a little before that, a certain number of branches are detached, and are distributed, some superficially, some more profoundly, in the substance of the liver to the right of the vena cava. The greater number of these branches ramify on the external surface of the vena cava, where, however, they do not constitute *vasa vasorum*, but instead of becoming subdivided into capillaries they abruptly enter the cavity of the vein; either singly, or by the union of several, forming a dilatation or common reservoir which communicates directly with the interior of the vein. These anastomotic vessels are devoid of valves. The walls of these vessels partake of the structural characters of the vena porta; while the branches of the sub-hepatic veins exhibit very distinctly the muscular structure of the hepatic portion of the vena cava inferior. The orifices of these portal vessels are further distinguishable from the sub-hepatic veins by their regularity and their longitudinal direction with regard to the muscular fibres of the vena cava inferior.

This system of direct communication between the vena cava and vena porta does not exist only at the entrance of the liver, but is seen equally extensively in the depth of the organ and on the larger trunks of the hepatic vein, especially in the neighbourhood of their insertion into the trunk of the vena cava inferior. These vessels, M. Coste observed, constitute a true collateral hepatic circulation.—*London Med. Gaz.*, June, 1850.

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5. *Influence of Puncture of Medulla Oblongata on the Appearance of Grape Sugar in the Urine.*—Dr. Brinton brought before the Pathological Society of London (May 20th, 1850), the results of an operation of M. Claude Bernard, who has discovered that puncturing the medulla oblongata on the middle line of the floor of the fourth ventricle, or between the roots of the vagus nerves, gives rise to the appearance of grape sugar in the urine. During a recent visit to Paris, M. Bernard, with great kindness, repeated this and other important experiments in his presence. The pathological interest of the fact, as well as its extraordinary character, led Dr. Brinton to think that the Society might be interested in having it confirmed in their presence. The steps of the operation were detailed to the Society, and illustrated by the skull of a rabbit. Several specimens of urine from a rabbit thus operated on were exhibited to the Society, and in these it was seen that the copper test, which before the operation afforded no precipitate, gave a very copious one immediately after; and that, after enduring several hours, this saccharine state of the urine gradually disappeared. A rabbit was also shown which had been operated on about two hours before the meeting, and whose urine exhibited a copious orange precipitate of the suboxide of copper. A satisfactory, but less copious, precipitate was also obtained from a very small quantity of the secretion taken from the animal while before the Society.

Dr. Bence Jones urged the insufficiency of the copper test. It was evident the operation produced a change in the urine; but he thought the presence of sugar not proved.

Dr. Brinton disclaimed implicit reliance on any single test. M. Bernard had equally assured himself of the presence of sugar by the incontestable proof of fermentation.—*Ibid.*

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6. *Determination of the Place of Fecundation in the Superior Vertebrate Animals.*—M. Coste read to the Academy of Medicine of Paris (June 3d, 1850) a note on this subject, in which he disputed the opinion at present generally held by physiologists, that the ovum, spontaneously discharged, may be fecundated by coming in contact with the semen at any point between the ovary and the external orifice of the uterus. This opinion, M. Coste observed, had been received too readily, on account of its harmonizing with the modern theories of spontaneous ovulation. It has not been noticed, M. Coste remarked, that the ova lose

their integrity at the distance from the ovary that they are said to be capable of fecundation. In order to determine this point, M. Coste had examined the ova of birds and mammalia from ten to twelve hours after their discharge from the ovaries, and had found that those present in the Fallopian tubes, and not fecundated, exhibited evident signs of commencing decomposition. If, then, argued M. Coste, after so short a residence in the tube that they had not traversed the first half of its length, the ova already showed signs of decomposition, it is clear that they can no longer be susceptible of fecundation by contact with the seminal fluid.

M. Coste deduced from his observations that fecundation can only take place at the ovary, the mouth of the Fallopian tube, or in the first third of that canal. —*Ibid.*

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7. *Force of Fecundity in Phthisical Subjects.*—Dr. W. H. Walshe, Professor of Medicine in University College, London, with the view of contributing to the solution of the problem, *whether the tuberculous diathesis intensifies or weakens the force of fecundity in the female, and of the procreative faculty in the male,* has collected a certain number of cases of phthisis, carefully noting the number of years the individual had been married, and the number of children and miscarriages the patient herself had had, if a female, or had occurred in the person of his wife if he were a male. As essential elements in the inquiry, the age and the duration of illness at the time of observation were in each instance included. The number of cases amounts to 91; the greater part observed among the outpatients of the Consumption Hospital, when existing in embryo at Chelsea. This number is, doubtless, too small to furnish a final solution to the problem (especially as the investigation is beset with no small number of sources of fallacy), but, nevertheless, may be considered capable of furnishing results approximating to the truth.

It follows from the data which he has collected that the procreative power of phthisical males is below the average—the fecundity of phthisical females materially above it; and hence that, to whatever extent phthisis be a disease propagable from parent to child, the danger of its extension thus is greater from the marriage of tuberculous females than males. It may further be concluded that the tendency to early marriage, which Prof. W. formerly showed to exist in the phthisical of both sexes,* ought, in females, to be discouraged, especially if the researches of future observers should prove that the *phthisis of infants* (differing from that of adults) is, to any prominent degree, an hereditary disease. Early marriage was at one time supposed to be useful to the phthisical female herself; but accurate observation fails to warrant the idea.

But, taking the two sexes together, and regarding them as phthisical stock prepared to propagate, it is obvious that the female activity is counterbalanced, to a certain extent, by the male inactivity.

So that 11.82 years of phthisical cohabitation produce a mean of 0.83 children less than 17.48 years of non-phthisical cohabitation. At the phthisical rate of production, the produce would, in 17.48 years, equal 5.74 children, instead of 4.71, as in the non-phthisical series. This is somewhat above the real excess; still it must be admitted these facts go to prove that there is, to a certain amount, a greater tendency in tuberculous stock to multiply than in the population at large.—*Med. Times,* July 6, 1850.

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8. *On the Mechanism of Textural Nutrition.* By Rudolf Haas, M. D., late lecturer on Epidemiology in Vienna.—The first step in the actual process of nutrition is, the attraction of the homogeneous part of the blood by the tissues.† The blood being contained in the vessels, that part only which transudes through their walls into the parenchyma of the organs can contribute to nutrition. Hence, even though a large quantity of rich healthy blood be circulating through the vessels, the textures will be imperfectly nourished, unless sufficient exuda-

* Enc. Britan. Ed. 7; Art. Population, p. 423.

† Valentin's Physiologie, Band 2, Sect. 2068. Mueller's Physiologie, p. 75.

tion takes place; but nutrition will be restored so soon as an adequate quantity of blood is made to pass through the walls of the vessels. An excessive exudation of serum into the parenchyma, no doubt, likewise impedes nutrition, by producing pressure on the textures, and thus impeding their attractive power. That this is probably the case, may be inferred from the following considerations: 1. The evolution and nutrition of organs are impeded by pressure from without; and the same effect is no doubt produced by pressure from within. 2. The textures become atrophied, whenever they are pressed on by an adjoining part which has had its bulk enlarged by inflammation or other causes. 3. Inorganic processes are retarded by pressure; thus, crystallization can only take place when sufficient space is afforded. The organic processes, then, consisting in a selection and attraction of similar parts, have the greater need of sufficient space.

The process of nutrition may then be supposed to be modified by all those forces which cause an alteration in the quantity or quality of the blood effused into the parenchyma; or rather by those influences which affect the transudation of the nutritive part of the blood through the coats of the vessels. The forces which modify the exudation of blood through the coats of the vessels are the following:—

1. *The Quantity of Blood circulating in the Vessels.* The larger this quantity is, the more the vessels and their pores are distended, and more blood passes into the parenchyma, and *vice versâ*. If a fluid be driven through an elastic tube, the latter will be distended in proportion to the force applied.

2. *The Quantity of the Blood-Corpuscles.* Many blood-vessels (*vasa serosa*) are of smaller diameter than the blood-corpuscles; and hence must be distended when they pass through them. It is incorrect, and quite in contradiction to physical laws to assert, with some physiologists, that the corpuscles are compressed and become elongated, in passing through these vessels. Being propelled by a *vis à tergo*, they must become broader, but never more slender. On pressing an elastic globe through an elastic tube, the former will not become thinner, but both will be distended. Hence, the more corpuscles there are in the blood, the more the vessels and their pores are distended.*

3. *The Energy of the Forces which Propel the Blood into the Small Vessels.* The capillaries and their pores are distended in direct proportion to the energy with which the blood is sent into them by the heart and large vessels. This may be demonstrated by forcing, with varied pressing power, a quantity of fluid through an elastic tube.

4. *The Temperature.* Within certain limits, a high temperature favours distension of the vessels, while a low one causes them to contract.†

We find, in the above principles, the explanation of many of the phenomena of health and disease.

I. The similarity between the symptoms of anæmia and those of hyperæmia is evidently accounted for. In both diseases, nutrition is interrupted; in anæmia, by want of blood; in hyperæmia, by its superfluity, which produces pressure on the tissues, and impedes their power of selection and assimilation. In hyperæmia, the vessels are over-distended, and too much blood passes through their coats into the parenchyma.

II. We find an explanation of the general organic weakness which is constantly observed in fevers. The heart being, in these diseases, too energetic in action, the vessels are over-distended, and an excessive quantity of blood is effused, producing effects similar to those which occur in hyperæmia.

III. The secretions, as the urine, sweat, and saliva, are impeded in fevers by this pressure of the blood on the textures. In spite of the presence of a large quantity of blood in their parenchyma, the organs are in want of material to furnish the secretions; for they require a large proportion of water, which is not afforded by the blood which passes through the pores of the vessels in a fibrinous state. Bruck's experiments show that a large proportion of water

* Haas (Dr.) Ueber die Function der Blutkörperchen. Œesterreichischer Jahrbücher, Jan. 1848.

† Valentin's Physiologie, band i. sect. 1086.

and soluble salts, and very little albumen, pass through small pores; but that through large pores, such as there are in fevers, there pass very little water and saline matters, and much albumen. The parenchyma of the secreting organs, then, contains very little water in fevers. This impediment to the secreting functions causes the retention in the blood of a large quantity of urea, saline matter, etc.; but after the fever had subsided, when the action of the heart has diminished, and the vessels are less distended, the quantity of blood is not only diminished, but becomes more watery: the secreting organs are stimulated to action by the matters which have been retained, and the blood is also more able to remove them. The urea and salts increase in the urine, producing a sediment, the appearance of which denotes a *crisis*.

IV. A diminution in the quantity of blood is the cause of the summer sleep of the amphibia. Berthold and Davy found the temperature of these animals always lower than that of the atmosphere; this is produced by the evaporation of water from their bodies increasing with the temperature. Hence, in a high temperature, the quantity of blood in these animals is much diminished by their losing a large quantity of water; and in circulating through the vessels, it does not distend them sufficiently to allow the nutritive part to exude. Nutrition, then, being partially suspended, the animals fall into a lethargic state. This explanation is in accordance with the fact that the amphibia creep into a hiding-place in dry, and awake in wet weather. They are not awaked by being carried into a cold room, but by being immersed in water.

V. A similar explanation will account for the fact that animals are unable to live longer than twenty days on dry food, without any fluid, while they can exist for fifty days when supplied with water alone, but in sufficient quantity. As long as the animals get no fluid, the blood loses water daily in the urine, saliva, sweat, and breath. This loss can never be repaired by dry food, for the stomach cannot digest a sufficient quantity. The blood, thus reduced in quantity, passes through the vessels without being able to distend them, and afford nutritive material, as in the summer sleep of amphibia. The want of water also causes a thickening of the blood, which co-operates with its want of power to distend the vessels. But if the animals are supplied with a sufficient quantity of water, without any food, they survive for a longer time. Although water contains no nutritive material, and cannot be transformed into nervous or muscular tissue, it nevertheless indirectly contributes to nutrition, by increasing the quantity of the blood. The vessels are sufficiently distended, and the blood passes into the parenchyma, and supports life longer, in spite of its possessing very low nutritive power.

VI. The winter-sleep of animals has its origin, like the summer-sleep, in an interruption to nutrition. The summer-sleep is caused by the loss of water; the winter-sleep by the diminished activity of the heart's action, consequent on the influence of cold. It has been found that, in hybernating animals, at the commencement of the winter-sleep, the pulsations of the heart subsided from 200 to 50 in a minute. The heart being thus weakened, is not able to propel the blood with sufficient force to distend the vessels, which are much more contracted in cold weather. In such circumstances, no blood passes through the pores into the parenchyma, nutrition is interrupted, and the animals fall into a state of asphyxia, losing the power of feeling and perceiving. The reason why some animals only are subject to hybernation is to be found in their various degrees of sensibility. Those whose heart is unable to resist the weakening influence of cold, are seized on by winter-sleep. This explanation is confirmed by the fact, that we observe young animals asphyxiated by a degree of cold, which they would bear with impunity if full grown. Legallois observed this in rabbits, six or eight weeks old.

The cold-blooded animals are also very soon overpowered by cold; but this is dependent on two causes. Not only are they more susceptible of the influence of cold, but their small quantity of blood acts at a disadvantage. The quantity of blood would be sufficient, if the heart acted with sufficient energy; but the heart's action failing, the blood merely circulates in the vessels, without being able to pass through their coats.

VII. The diminished activity of the heart, and the contraction of the vessels, in cold weather, explain why we are compelled to take a larger quantity of food in winter, or when living in a cold climate. We endeavour to supply the want of one force which contributes to nutrition, by increasing others—to make up for the insufficient action of the heart by increasing the quantity of blood. If a fluid be pressed through an elastic tube, its walls will be less distended as the force is diminished, but more distended if the quantity of fluid be increased. If the quantity of fluid be increased in the same proportion as the propelling force is decreased, the distension of the vessels remains the same. The degree in which cold impedes nutrition may be observed in the inhabitants of the frigid zones. They are stinted in growth; their bodies are short, their muscles thin, their senses obtuse, their mental faculties very weak, and the sexual instinct, the catamenial flow, and the fecundity, are much less than in other people. The same quantity of blood which is sufficient for nutrition in a warm climate is not so in a cold one. In the latter, also, the heart is less active, and the vessels more contracted. For effecting adequate nutrition, a certain quantity of blood must pass into the parenchyma; and if the heart cannot act with sufficient energy to propel sufficient blood to distend the vessels, the absolute quantity of blood must be increased: otherwise a general stinting of growth results.

As the blood is the carrier of animal heat, we encourage by increasing its quantity, and especially its penetration through the walls of the vessels, not only the nutrition of the tissues, but also the sensation of external warmth. We possess more blood in winter than in summer, and are hence more disposed to inflammation in the former season. We more easily, and for the same reason, bear a high temperature in the winter than in the summer. Warmth excites the heart's action, and promotes distension of the vessels; and if these at the same time contain much blood, congestions and inflammations are liable to occur.

The opinion of Liebig, that we are obliged to eat more in winter than in summer, because we inspire more oxygen, is not adequate to explain the facts above referred to: 1. According to Liebig, we possess in summer more blood than in winter, in which latter season the oxygen consumes more of the blood. If it were so, the tendency to inflammation ought to be greater in summer than in winter. 2. It ought not to be easier to bear a high temperature in summer than in winter. 3. Liebig's view does not explain why the amphibia and young animals become more easily asphyxiated in cold weather. The oxygen cannot have consumed a sufficient quantity in such a short time. 4. If an organ be subjected to the influence of cold, it loses sensation as if deprived of blood.

VIII. The same instinct which compels us to take more food in winter also invites us in the same season to make use of spirits. These, by exciting the heart to more frequent and energetic contraction, directly oppose the influence of cold, which weakens the heart, and prevents it from contracting with energy. By increasing the activity of the heart's action, spirits cause the greater distension of the vessels, and thus contribute to the nutrition of the organs. But, though to a certain extent equivalents to food, they never contribute directly to textural nutrition.

The protection which spirits afford against cold is produced by the diffusion of animal heat by means of the effusion of blood into the parenchyma. Liebig explains this phenomenon by the evolution of warmth from the combustion of spirits by the oxygen: but this opinion is liable to the following objections: 1. If the increase of animal heat by the use of spirits were dependent on this chemical action, the same quantity of spirits should produce the same amount of heat in all persons. But experience shows that this is not the case. Individuals, who are not accustomed to spirits, feel very warm, and even perspire on taking a small quantity, while those who are addicted to their use feel no effect from the same quantity. This agrees entirely with the statement above given, that the effect produced by spirits is the consequence of their stimulating action on the heart: 2. Spirits are never burnt at such a temperature as is generally found in animals: 3. They are expired generally by the lungs, and not therefore burnt: 4. Fat is likewise burnt as by the oxygen; and yet we do not feel warmer after making use of it.

In the preceding theory, we find the explanation of the fact that drunkards live on a small quantity of food. A small quantity of blood affords as much nutrition to them as a larger quantity to other persons; for, in consequence of their taking spirits, the heart propels this small quantity of blood into the small vessels with such energy, that they are as much distended by it as by more blood with the normal activity of the heart. After having abstained from spirits for some hours, the drunkard feels very weak, and is not better till he has again taken liquor. He does not feel strengthened by taking food, as other individuals do. The reason of this is his general anæmia. By the use of spirits the heart is caused to propel the blood forcibly, so as to distend the vessels, and the tissues are nourished. But the stimulus being removed, the activity of the heart subsides to its normal standard; the blood in the parenchyma is partly consumed by the tissues, partly absorbed by the lymphatic vessels. As the normal activity of the heart is insufficient to propel the small quantity of blood, the tissues are soon in want of food: hence the individual feels weak. But the simple use of food cannot strengthen him, because the quantity of blood cannot be restored with sufficient rapidity, as has been explained in my observations on the starving of animals by the use of dry food. The drinking of water or other fluids is more effectual than taking food. The quantity of blood is increased; and the vessels and their pores being distended, nutritive material is more exuded into the parenchyma. In this way we may explain the cure of delirium tremens by drinking a large quantity of water. The want of appetite in drunkards is a natural consequence of the chronic inflammation of the stomach.

IX. In the same manner as spirits, warmth supports animal life. Animals partially starved, and already insensible, can be roused by artificial warmth. After ten minutes, the animal rises up, takes food, passes fæces and urine; and is, during the application of warmth, lively and merry. Warmth excites the heart and distends the vessels; so that the blood, in spite of being reduced by fasting to a very small quantity, passes through the walls of the vessels more readily than before heat was applied. In this way the tissues obtain nutritive material; and the organs again recover their activity.

X. But animals die sooner after being subjected to artificial warmth than when left insensible. This is to be explained by the same remarks as I have made in speaking of summer-sleep, and of the starving of animals when restricted to the use of dry food. In all these circumstances, the animals die from the want of blood in the parenchyma, produced by the loss of water. For when awaked they part with a large quantity of water in the urine, sweat, and breath; all which secretions are, like the nutritive material, furnished by the blood. The blood is thus much more diminished than if the animals had been left in their state of asphyxia. Chossat asserted that pigeons which were undergoing starvation lost twice as much weight when roused by artificial warmth as when left quiet.* This is more the effect of secretion than of the process of nutrition.

XI. In the principles which I have laid down, we find an explanation of the changes which the blood undergoes under various circumstances. There can be no doubt that any impediment to the process of nutrition must produce an alteration in the blood in the vessels; for those materials which ought to be applied to nutrition, and transformed into different textures, remain in the blood. It being established that the quantity of blood in the vessels, the number of blood-corpuscles, the energy with which the propulsive agents in the circulation act, and the amount of temperature, produce modifications of the nutritive process, it is equally probable that they tend to alter the blood in the vessels.

In order to show what parts of the blood increase with the augmentation, and decrease with the diminution of nutrition, we must show what materials are subservient to this process. These are, besides some salts, fibrin and albumen. The corpuscles, being unable to pass through the walls of the vessels, cannot be considered as affected by the increase or diminution of nutrition.

The albumen and fibrin, though both subservient to nutrition, are destined for distinct purposes. The fibrin nourishes the tissues: but the albumen is

* Chossat. Recherches sur l'Inanition, p. 121.

transformed into fibrin and corpuscles. That the blood-corpuscles are formed from albumen, is proved by considering that they must be formed *in* the vessels, as they cannot pass through their pores; and as they are similar in composition to albumen, they are without doubt formed of it. That the fibrin is formed from albumen can be demonstrated by the following facts: 1. The chyle contains more albumen and less fibrin than the blood; consequently, a part of the albumen must have been transformed into fibrin. 2. The chyle, immediately after being absorbed by the lacteal vessels from the intestines, contains more albumen and less fibrin than that which has passed through the mesenteric glands. 3. Lymph contains much more fibrin, and less albumen, than blood-serum. But as the lymph is formed in the parenchyma of the organs from the blood-serum, which contains but little fibrin, the fibrin in it must be formed from albumen. 4. The arterial blood contains more fibrin, and less albumen than the blood in the veins; and this can only result from the transformation of the latter material into the former.

The albumen is therefore not only consumed for the purposes of nutrition, but is in a great measure transformed into fibrin and blood-corpuscles. Hence any increase or decrease in the quantity of albumen is not only dependent upon the various degrees of activity of the nutritive process, but also on the extent to which it is transformed into fibrin and blood-corpuscles. If this action be impeded, the albumen must, if it be restored by food, increase in quantity, in spite of the apparent performance of textural nutrition.

Fibrin differs from albumen, in its mode of reparation. Albumen is only restored by food; and if none be taken, the albumen is not renewed. But fibrin, being formed from albumen, is restored even if no food be taken. It is nevertheless to be remembered that the chyle also contributes a share to the formation of fibrin.

We are now able to point out some laws which regulate the increase or diminution of the albumen and fibrin.

The albumen increases: 1. When food is taken as before, if either the nutrition of the textures, or the formation of blood-corpuscles or of fibrin be impeded. In consequence of this, the albumen increases: (*a*) In chlorosis, where the formation of blood-corpuscles is impeded by the want of iron, or from some other cause. But if less food be taken than before, the albumen cannot be increased. (*b*) In many toxæmic diseases, as typhus, intermittent fever, bilious fever, &c., the poisons of these diseases in general impede the formation of fibrin:* and if the attack takes place on the same day on which food has been taken, the albumen will be restored by the chyle, and must increase. But if an animal be seized after fasting for some days, or if the blood be drawn three or four days after the toxæmic influence have first acted, we shall not find an increase of the albumen. The influence of food accounts for the albumen being sometimes in excess in chlorosis, and in toxæmic diseases, and sometimes in defect. 2. If, while the nutrition of the textures, and the formation of corpuscles and fibrin, are performed as before, more food is taken. In consequence of this, the albumen is increased in plethora.

The fibrin increases: 1. If, while it is being formed as before, nutrition is impeded. In consequence of this it increases: (*a*) In all inflammatory fevers, where nutrition is impeded by the violence of the circulation, but where no cause operates to retard the formation of fibrin, which is still formed from albumen, even though very little food be taken. (*b*) After bleeding, when nutrition is impeded by the blood not being in sufficient quantity to distend the vessels. This increase is only relativ in proportion to the other parts of the blood; the loss of all parts has been equal, but the fibrin is soonest restored. The blood-corpuscles require time for renewal, and the albumen can only be supplied by food. (*c*) In abstinence, where the albumen is not restored by food, but the fibrin continues to be formed from albumen, the same phenomenon takes place as after bleeding. (*d*) In all diseases in which the blood-corpuscles are diminished, the vessels are not distended sufficiently to allow the fibrin to

* It does not follow that every poison impedes the formation of fibrin; for all poisons are not alike.

pass into the parenchyma of the various organs. This is the case in chlorosis, scirrhus, morbus Brightii, the latter months of pregnancy, and tuberculosis. Under all these circumstances, an access of fever determines an increase in the quantity of fibrin. 2. If, when the formation of fibrin continues to be performed as before, a large quantity of fibrinous food be taken. This is the result of an animal diet; for in this case, the chyle contains much more fibrin than when a mixed diet is used.

The albumen decreases whenever its expenditure is greater than its supply by the food. This takes place in fasting; where, though but little albumen passes through the coats of the vessels, it is consumed in the formation of fibrin and corpuscles.

The fibrin decreases only if its formation be impeded. This takes place in various narcotizations and poison-diseases, as poisoning by opium, hydrocyanic acid, typhus, miasma, etc.

It is here the place to refer to the causes of the increase or decrease of the blood-corpuscles in different diseases. We have first to point out how they are *spoiled*, in the healthy state. On this point, we have only hypothetical ideas: but, as it is established that the small vessels are distended by the passage of the corpuscles, an amount of friction must be exercised, which must tend to render the corpuscles unfit for use. It follows, that the oftener the corpuscles circulate through the vessels, the more they are spoiled; but this rule is not without exceptions. It may happen, that the corpuscles are often propelled through the vessels without being injured; this occurs if the walls of the vessels are soft and capable of yielding. In this case, the corpuscles must increase, if their formation be not impeded. They must decrease, if their formation be impeded, or the vessels be resistant, and the heart act more frequently. Hence they decrease in fevers, because the contractions of the heart are more frequent. They increase in typhus and other toxæmic diseases, where the vessels are yielding, which is denoted by the softness of the pulse; for, as the vessels do not resist the pressure of the finger from without, they cannot be supposed to oppose the pressure from within. This is the result of the action of the poison. If, however, the formation of the corpuscles be impeded, they decrease notwithstanding the softness of the vessels. This sometimes happens in chlorosis.

XII. From the preceding observations, we can understand the cause of the different characters of the exuded matter in inflammation and in congestion; the product of congestion being non-fibrinous, while that of inflammation contains much of this substance. Pathologists have ascribed this phenomenon to different *dyscrasies*, which, according to the preponderance of fibrin or albumen in the exudation, they have termed the fibrinous or albuminous dyscrasies. These are only hypothetical, and are incapable of demonstration, either *à priori* or *à posteriori*. The retention of the fibrin in the blood, and its free exudation through the pores of the vessels, depend, as I have already shown, on the state of distension of the capillary vessels, and upon the various substances which are mixed with the blood. If the blood contain substances which impede the formation of fibrin, as is the case in typhus and other toxæmic diseases, the fibrin must decrease, and the exuded matter cannot contain much of it. The amount of albumen in the exudations also depends on the distension of the vessels, and on the quantity in the blood. In cases where the blood has not been poisoned, the exuded matters will contain a quantity of fibrin, proportionate to the distensions of the vessels of the inflamed part. Hence all those causes which assist the distension of the vessels also promote the exudation of fibrin. In persons with much blood, containing many corpuscles, and with increased action of the heart, an exudation of much fibrin is produced; while in feeble individuals, possessing a small quantity of blood, poor in corpuscles, and in whom the heart acts feebly, and the vessels are not distended, the exudation will contain but little fibrin, although the blood be rich in it. When some poison impedes the formation of fibrin, as in typhus, etc., the exuded matter contains much albumen.

In winter, the body generally contains more blood, and the exudation is more fibrinous, from the distension of the vessels by the greater quantity of the blood. In summer, the body contains less blood, the vessels are less distended,

and the exuded matter is poor in fibrin. In childhood, where a great part of the blood is employed in the evolution of the organs, only a small quantity remains in the vessels, as is proved by our finding it only in the larger veins and in the heart; the matters exuded contain very little fibrin, the vessels being very little distended. Moreover, the blood in the child contains a smaller proportion of fibrin than that of the adult, on account of the greater amount of vegetables in the food.* In chlorosis, in spite of the presence of much fibrin in the blood, the exuded matters contain but little of it. The reason of this is the non-distension of the vessels, from the deficiency of blood-corpuscles. In typhus and other toxæmic diseases, the exuded matter contains very little fibrin, the blood being poor in it; but it contains much albumen. But the condition of the vessels has also a great influence on their power of distension and hence on the quality of the exuded fluid.

XIII. From the preceding observations, the following practical rules may be deduced:—

A. In all diseases where there is an indication to increase the penetration of the blood through the pores of the vessels into the parenchyma of the organs, we must use means to augment the quantity of the blood and of its corpuscles, the activity of the heart and large vessels, and the animal heat.

The quantity of the blood is increased: *a.* By taking a large quantity of aliment: either by the stomach, if it be able to digest a sufficient amount; or by nutritive baths and enemata. *b.* By the ingestion of a large quantity of water, either by drinking or by enemata. Although the water is soon removed by the kidneys, it must in any case first enter into the blood-vessels; for it is unreasonable to imagine the existence of *viæ clandestinæ*, leading directly from the stomach to the kidneys. While, then, the water is in the vessels, these are more distended, and a larger amount of the nutritive part of the blood passes into the tissues. That water remains for some time in the vessels, and is not immediately removed by the kidneys, can be proved from the following experiment. If one animal be bled six hours after drinking, and another only half an hour after, the blood of the latter will be found much more watery than that of the former. The retention of the water in the blood for some time previous to its elimination is also proved by the circumstance that a sweat breaks out on the surface of the body, after drinking several glasses of water; and also by the fact that animals will survive for some time when supplied with water alone. In the latter case, it can only act by increasing the quantity of the blood.

The number of blood-corpuscles is increased by the use of iron; as is proved by the observations of Andral and Gavarret.

The activity of the heart and of the vessels is increased: *a.* By exercise. This is proved by the well-known circumstance that, in violent motion of the body, the activity of the heart is much increased, the vessels are more distended, and a sweat breaks out on the surface of the body. *b.* By the use of spirits and of various other stimulants.

The temperature of the body is increased by means of warm clothing, by warm baths, by warming the air which surrounds the body and by friction.

If one of the forces which assist the exudation of the nutritive part of the blood be diminished, its deficiency must be compensated by the increase in intensity of the others. Hence, after losses of blood, we administer spirits with water, apply friction, and employ means for producing warmth: we also give iron and use baths containing nutritious matters, and advise the patient to take exercise if he be not too weak. We follow the same plan after long abstinence from food, and in convalescence from diseases of long standing; and the same thing is to be done in chlorosis. The asphyxia produced by cold arises from the want of nutrition; hence the same remedies are to be employed. In these cases, water, spirits, artificial warmth, iron, and exercise, act as equivalents to food. This may be witnessed in animals, confined to the use of water, which are revived from their apathetic state by artificial warmth; in drunkards, who live on a very small quantity of food; and in chlorotic patients, who gain

* Lehman, Physiolog. Chemie, 1842, bd. i. p. 194.

strength from the use of iron, and from exercise. After loss of blood, spirits are the best remedy, as they seem to cause an increased flow of blood in the vessels of the brain, which is thus kept in a sufficient state of stimulation, in spite of the small quantity of blood in the vessels.

It will be in place here to answer some objections to the use of spirits, from the effects, real or supposed, produced by them in drunkards. In these persons, the blood is thick and dark coloured. The thickness arises, not from the coagulation of the albumen by the blood,* as Budge and others suppose, but from the large quantity of fat contained in the blood. The dark colour has its rise in the impaired power of the heart and lungs, by which the circulation is impeded, and the carbonic acid is not sufficiently removed from the blood. But all this is far from being a legitimate object of dread, in the moderate use of spirits.

Remedies which increase the exudation of the blood are also to be employed in catarrhal inflammation. The process which here takes place is as follows. Distension of the vessels of the mucous membrane being produced by any cause, the blood stagnates in the vessels; but as it is pressed on by the blood, which is still flowing, it is obliged to pass through the pores of the vessels, as far as the cells of the epithelium, by which it is prevented from passing out. After some time, the epithelium becomes relaxed, and the thinner part of the blood is enabled to exude through its cells, in the form of a thin mucus. Subsequently, the epithelium, being quite spoiled, is thrown off, and the thicker part of the exuded blood escapes. When the part is thus freed from the exudation, the pressure is removed and a new epithelium is formed; after which the part is restored to the healthy exercise of its functions. The sooner, therefore, the epithelium can be removed, the sooner recovery takes place; and this occurs in proportion to the rapidity with which the blood in the congested vessels can be caused to exude. In this first stage, spirits or other stimulants, warmth, cold water or vigorous exercise, are the best remedies. But when the thickened mucus has begun to appear, showing the removal of the epithelium, remedies of another character are indicated.

B. In all cases where exudation is to be retarded, remedies of an opposite character to those before mentioned must be used. We have to diminish the quantity of blood and of blood-corpuscles, the activity of the heart and large vessels, and the temperature of the body.

The quantity of blood and of blood-corpuscles is diminished by bleeding; and we have no means which act so rapidly in decreasing the proportionate quantity of the latter. The blood may also be diminished in quantity by increasing the secretions. All remedies which act as stimulants to the activity of the secreting organs diminish the quantity of the blood. These include laxatives, diuretics, diaphoretics, emetics, and sialagogues. All these remedies

* The assertion of Budge (*Allgemeine Pathologie*), that spirits produce coagulation of the albumen of the blood while in the body, is opposed to experience. They cannot produce this effect in the living body, provided their quantity be kept within certain limits. If they generally had this effect, they would be most active and dangerous poisons; yet we find persons who habitually use them, living to a great age. Orfila having injected alcohol into the veins of animals, found the blood coagulated in the immediate vicinity of the injection, while that in distant parts of the body remained fluid, although as much in contact with the spirit as if the latter had been drunk. We can never assert that substances always produce the same effects in, as out of the body. There are certain circumstances in the living organism, with the nature of which we are not yet acquainted, which are capable of impeding and modifying the chemical action of some substances. The aggregate of these modifying circumstances is termed the *vital force*. As an example of this, the blood when removed from the body is decomposed by oxygen into carbonic acid, ammonia, hydrosulphuric acid, and water; but in the living body, carbonic acid, urea, uric acid, and water are the products. The oxygen always acts according to chemical laws; but there are certain circumstances in the body which compel it to produce urea and uric acid instead of ammonia. If we knew what these are, we should be able to produce urea and uric acid. We can imitate digestion; but we must use pepsin taken from the stomach, because we are not able to make it artificially.

diminish the blood, but do not produce a decrease in the corpuscles. From the effect of diuretics and diaphoretics, the blood loses only water and saline matters; by emetics, purgatives, and sialagogues, it also loses a portion of albumen.

The activity of the heart is diminished by some narcotics, as digitalis, etc., and by acids. Cold has the effect of increasing the contraction of the vessels, and of diminishing the activity of the heart. Tranquillity is also necessary to be observed.

Bleeding, which diminishes the blood and its corpuscles, is to be employed in all inflammations, when the exuded matter cannot be thrown out, but not in individuals who are exhausted and very much weakened. By this operation, we not only diminish the exudation, but we render it more watery, and capable of dissolving the old exudation, so that it may be absorbed. The vessels are not so much distended, and thus less albumen and fibrin, and more water and salts, penetrate into the parenchyma. But in exhausted and weakened persons, where there is only a small quantity of blood, and the fibres of the tissues are relaxed and soft, bleeding may be followed by dropsy, from the exudation of water and saline matters through the lax fibres. Dropsical symptoms appear generally after the subsidence of fever: because while the fever is active, the energy of the heart causes the vessels to be kept distended, so that the exuded matter is albuminous, and is too thick to pass between the fibres of the tissues. But when the fever is past, the activity of the heart subsides; and the quantity of the blood being small, the vessels are very little distended, so that only water and saline matters exude, and by gravitation tend to the lower parts of the body.

The remedies which increase the secretions and excretions act altogether in another way: particularly diuretics and diaphoretics, by the action of which the blood loses water and saline matter. The blood becomes thickened like cholera-blood. In such circumstances, scarcely any water passes through the pores of the vessels into the parenchyma of the organs. The effect, therefore, is quite opposite to that produced by bleeding.

It is easy to understand how, though bleeding and evacuant remedies both diminish the quantity of the blood, they cannot be always used in the same circumstances. In inflammations with fever, in robust and athletic individuals, where the exudation contains much fibrin and albumen, and is deficient in water, so that it requires a new watery exudation to dissolve and absorb it, bleeding which promotes such an exudation of water will be most useful. But evacuants, which impede the exudation of watery matter, protract the disease. But in inflammation without fever, or in exhausted and bloodless individuals, where the exudation is not thick, and wants no other exudation to render it soluble, bleeding is either superfluous or dangerous, while the evacuants mentioned above are useful. The same is the case in inflammations of those parts where the exudation is in general only watery. In the same way, evacuants are remedies against dropsical diseases, by diminishing the exudation of water. The water which has been already exuded will be absorbed, if the lymphatic vessels are in a state of health. The lymphatic vessels, after having absorbed the exuded serum, bring it back to the blood; and so the blood becomes thin in spite of its losing much water by the use of evacuants. But if the lymphatic vessels of the part where the inflammation is are unable to absorb the exuded liquid, and to return it back to the blood, this must become, by the continuous use of evacuants, very thick, so that very little can pass through the vessels. The individual must become weak, and the lymphatic vessels of the whole body having no blood to absorb, must absorb the fat of the organs; and this is the reason that, under the use of evacuants in dropsy, if the dropsical tumour do not decrease, the fat in the whole body gradually disappears. Evacuants act most beneficially in all chronic inflammations. In these diseases, the vessels are generally unable to contract; but the blood is not entirely stagnant. By the use of evacuants the quantity of blood is diminished, and the vessels are less distended, so that they have an opportunity of being restored to their functions. Evacuants are to be given in cases of hypertrophy, especially in

that of the heart. Bleeding is sometimes beneficial: but it is liable to induce dropsy, which does not follow the use of evacuants.

I do not desire to be a panegyrist of purgatives, as I consider that they are not only used sufficiently, but even too often, and without sufficient reason. But I think that diuretics, and probably diaphoretics, should be more used than they are at present. The perspiration consists of water and carbonic acid, and amounts to thirty-four ounces in twenty-four hours; being the same quantity of water as is removed by the kidneys.

If the normal perspiration, which disappears without being noticed, amounts to thirty-four ounces, it is obvious, that the increasing perspiration, which appears in the form of sweat, must be in great quantity. We are therefore able to diminish the quantity of blood in a very considerable degree by diaphoretics. This is the reason why we feel very weak after sweating any time, for the quantity of blood is very much diminished, and the same effect is produced as after a large loss of blood by bleeding.

I think the cold-water cure acts merely as a diaphoretic. The vessels of the cutis being first contracted by the cold, become, by being excited, very weak, as is the case after every application of a strong stimulus. They become lax and distended, and a great sweat follows: during this, the cold bath is repeated, and the vessels, which are yet not quite restored, are again excited. The relaxation of the vessels must now occur to a greater degree than before; and the sweat does not cease for several hours. Besides this, we must remember the exercise which the patients take in climbing hills, etc. The vessels of the cutis are relaxed to such a degree, that even a stasis of the blood takes place in some parts of the cutis, and spontaneous blisters are produced. Warm bath produces relaxation of the vessels of the cutis, but not in such a marked degree as cold applied in the way just mentioned. Sweating baths act in the same way. By these different kinds of baths, we are enabled to rapidly diminish the quantity of blood without danger of dropsy. They have doubtless other effects; but the diminution of the quantity of blood is the first.—*Lond. Journ. Med.*, July and August, 1850.

MATERIA MEDICA AND PHARMACY.

9. *The Kousso, or Brayera Anthelmintica.* By JONATHAN PEREIRA, M.D.—The Kousso, or Brayera Anthelmintica, is an Abyssinian tree twenty feet high. Branches round, rusty, tomentose-villose, marked by the annular cicatrices of the fallen leaves. Leaves crowded, alternate, interruptedly impari-pinnate and sheathing at the base. Leaflets oblong, or elliptical lanceolate, acute, serrate, villose at the margin and on the nerves of the under surface. Stipules adnate to the petiole, which is dilated at the base and amplexicaul. Flowers dicœcious, small, greenish, and becoming purple; repeatedly dichotomous; the pedicles with an ovate bract at the base.

The so-called male flowers may be regarded as hermaphrodite flowers, inasmuch as the carpels are well developed. The female flowers are somewhat different in their structure. The outer segments of the calyx are much more developed than in the female flowers, and are four or five times larger than those of the inner row, and are placed somewhat below them; the petals are entirely wanting; the stamina are rudimentary and sterile. The ripe fruits are unknown.

The tree grows in Tigre, Agame, and Shoa; it is cultivated everywhere, and Dr. Beke writes that the tree is "found throughout the entire table land of North-Eastern Abyssinia, but appears to require an elevation of upwards of six thousand (perhaps of seven thousand) feet for its growth. Where I found it most luxuriant was in the vicinity of the source of the river Abai (Bruce's Nile), at an elevation of close upon nine thousand feet. Tigre, the northern portion of Abyssinia, being on the whole of lower elevation than the rest of that country, the tree is only found there in a few places."

Bruce describes the flowers as being of a greenish colour, tinged with purple; and when fully blown of a deep red or purple. The petals, he says, are white.

Preparation.—Mr. Johnston states that the kousso is gathered for medicinal purposes before the seeds are quite ripe, whilst still a number of florets remain unchanged. The bunches are suspended in the sun to dry, and if not required for immediate use are deposited in a jar.

Pharmacography.—I have seen only one package of kousso; this was kindly opened in my presence by M. Simond, of the firm of Caylitis, Simond & Co., the agents of M. Rochet d'Héricourt. It was a deal box, containing about 30 lbs. of the dried flowers, wrapped up in a large skin of red leather. On removing the lid of the box and untying the leather package, the fragrant or balsamic odour of the dried flowers was very powerful. It appeared to me to be somewhat similar to the combined odours of tea, hops, and senna-leaves. The flowers had apparently undergone no preparation beyond that of desiccation. The bunches of flowers were perfect and unbroken, though of course compressed. The general colour of the dried mass was greenish-yellow; but when the flowers were more closely examined the edges of the petals were seen to have a reddish or purplish colour. The taste of the dried flowers is at first not very marked, but after a few minutes a feeble, senna-like, acrid, unpleasant taste becomes perceptible. By soaking the dried flowers in water, they may be unfolded sufficiently to determine their botanical characters, which have been already described. When submitted to microscopic examination, the hairs are perceived to be simple lymphatic hairs, tapering at the distal extremity. In Abyssinia, two sorts of kousso are distinguished—viz., first, the *red* kousso produced by the female flowers; secondly, the male flowers known as *kousso esels*. In commerce the two sorts are always mixed together.

Adulteration.—Considering the enormous price (about 1*l.* 15*s.* per ounce) at which kousso has hitherto been sold in Paris, and the very limited quantity originally supplied by M. Rochet d'Héricourt, it cannot be surprising that the article should be extensively adulterated. Indeed I have been assured, on credible authority, that the powder now selling as kousso is, in fact, the powder of pomegranate bark; and that legal proceedings have been commenced in Paris to put a stop to the fraud, which is well calculated to injure the reputation of the genuine Abyssinian remedy. I have no doubt but that the microscope would readily detect the substitution; but the surest way of obtaining the genuine article is to purchase the dried flowers in the entire state, not in the form of powder.

Although it is not improbable that the anthelmintic property of kousso may in part depend on tannin (since the pomegranate bark, which contains this principle in abundance, is, like kousso, also an anthelmintic), yet what may be termed the peculiar property of the kousso probably resides chiefly in the bitter acrid resin. This is soluble in alcohol and in ether, and appears to be a neutral body, manifesting neither distinct alkaline nor acid properties.

By boiling the dried plant in water a fragrant odour is evolved. No doubt this as well as the odour of the dried plant itself depends on the presence of a *volatile oil*, of which, however, no mention is made in Wittstein's analysis, the oil being present in too small a quantity to admit of its collection when small quantities of the flowers are operated on. It is not improbable that the anthelmintic properties may, in part, depend on this oil; for Schimper states that in Abyssinia the plant is considered to have lost its anthelmintic powers in the third year after its collection. In Europe, however, it retains its powers for a longer period (on account of the cooler climate)?—for the flowers which have been used for all the recent experiments, have been collected more than four years, and we are told in the shop-bill of a Parisian pharmacien, that they may be kept for an indefinite period.

An infusion or a decoction of kousso strikes a dark green olive tint with a solution of the sesquichloride of iron.

Medicinal Properties.—Neither botanical characters, sensible qualities, nor chemical composition, would have induced us to suspect that kousso possesses the valuable anthelmintic properties which experience has shown that it does. The general and prevailing quality of the rosaceæ is astringency, dependent on

the presence of tannic and gallic acids. This is observed in the flowers (*e. g.* rose petals) as well as in other parts of the plants. In this quality kousso agrees with its congeners. But it can scarcely be on this that its vermifuge property solely depends: otherwise, rose-petals, or any other equally powerful astringent, would be as effective in expelling worms as these Abyssinian flowers. But in rosaceæ, as in many other families of the vegetable kingdom, anomalies exist—and to this head we must for the present be content to refer kousso.

Our confidence in the anthelmintic properties of kousso rests, then, on experience only: and the evidence on this point is very strong. All modern travelers in Abyssinia are agreed on the great success of the remedy on the natives of that country; and the experience of physicians in France, England, Germany, and Switzerland confirms the favourable reports made by those who have seen the kousso used in its native country.

In Paris it has been employed with great success by Chomel and Sandras, as well as by numerous other distinguished physicians. In London, our experience of it is much more limited; but the successful results of its use in King's College Hospital, in the hands of Drs. Budd and Todd, and of Dr. Gull in Guy's Hospital, confirm the favourable reports of its efficacy which had reached this country from abroad.

The physiological effects of kousso are not in general very great. Sometimes it excites a slight sensation of heat, nausea, or even vomiting, creates thirst, and frequently, perhaps usually, a gentle action on the bowels. But the latter is commonly so slight, that in a considerable number of cases it is necessary to follow its administration by a mild purgative. It is obvious, therefore, that the efficacy of kousso as an anthelmintic does not depend on its purgative or evacuant influence, but on its poisonous or toxic action on the worm; in fact, it is a true *vermicide*. In one case, that of a woman in France, it brought away ten worms, of which one only manifested evidences of vitality, and that for a few minutes only.

Kousso appears to be an effective anthelmintic in both kinds of tapeworm—viz., the *tænia solium* and *bothriocephalus latus*. In most of the reported successful cases, the *tænia solium* was the parasite expelled; but in one of Chomel's cases, the worm which was evacuated was the *bothriocephalus latus*, and I am informed that kousso has proved most effectual in Switzerland, where, as is well known, the *bothriocephalus* is the prevailing tapeworm.

The dealers in kousso assert that one dose will, in every case, effect the radical cure of tapeworm. But this must be obviously an error. Even supposing that it invariably destroys all the worms in the alimentary canal at the time of its exhibition, it can in no way prevent their recurrence, provided the patient retains his predisposition (which there is no reason to suppose is affected by the kousso), and is subjected to the same influence. It certainly does not radically cure the Abyssinians; since, as several writers tell us, they resort to this remedy monthly. Schimper, the Governor of Adoa, says it does not completely expel the tænia, or at least rarely does so. But he adds that, possibly, in Europeans, in whom the verminous disposition is not so pronounced as in the Abyssinians, it may perhaps act in a more complete manner. In the Abyssinians, this verminous disposition is innate, and is dependent, he adds, on the regimen which they adopt.

Hitherto the great drawback to the use of kousso has been the difficulty of procuring the remedy, and its enormous cost. At the time when it could be purchased in Paris, its price was 1*l.* 15*s.* per ounce, or 17*s.* 6*d.* per dose. M. Rochet d'Héricourt, the sole holder of the medicine at the present time, refuses to sell any quantity less than his entire stock at the rate of one guinea per ounce. His nephew tells me that his uncle possesses 1400 lbs. of it, which, at one guinea per ounce, will cost 22,400 guineas. The impossibility of effecting a sale on such terms will, I doubt not, ultimately compel the holder to reduce his demands to something approaching to reason. It does not appear that the remedy is very costly in Abyssinia. Schimper, writing from Adoa, in Abyssinia, says that it is found in commerce at a very low price. At Yangaro (commonly called Zingaro) the sovereign has the exclusive use of it, his subjects being prohibited from employing it; but in other parts free trade in kousso is

permitted. Considering the frequency and rapidity of our communications with Egypt (to which place, according to Dr. Brayer, kousso is conveyed by caravans), no difficulty, I apprehend, will be experienced in obtaining an abundant supply of it. Its present price is a virtual prohibition of its use.

The flavour, though not very strong, is by no means agreeable; and is sufficiently powerful in some patients to create disgust and excite vomiting. In one case under M. Chomel, the whole of the remedy was rejected by vomiting. No ill effects have resulted from its use in this country; nor have I met with any statement of its injurious action, except in Mr. Johnson's "Travels in Southern Abyssinia," where it is stated that its "operation is speedy and effectual; and to judge by the prostration of strength it occasioned in my servants when they employed this medicine, it must be dreadfully severe. I can answer for this, that it occasions frequent miscarriages, often fatal to the mother, and even men have been known, after a large dose, to have died the same day from its consequences. I am therefore surprised at the noise this remedy has occasioned the last few years in Europe, as if it promised to be a valuable addition to our materia medica. This, I conceive, can never be; for no civilized stomach could bear the bulk of the drug necessary to produce its effects. Even in Abyssinia it is but barely tolerated, and let another remedy equally efficacious for dislodging tapeworm be introduced into that country, and the use of kousso will be soon abandoned. In fact, several other vegetable productions are now employed to escape the punishment of a dose of this violent cathartic."

Administration.—Both Bruce and Schimper tell us that the Abyssinians take a handful of the dried flowers as a dose. In Paris, the dose has varied from four to six drachms. In general, however, half an ounce (troy weight) is considered a dose for an adult. For different ages the doses are thus adjusted:—

Adults	1 dose=240 grs. (½ oz.)
Children from 7 to 12 years, ...	⅔ of a dose=160 grs.
" 3 to 7 "	½ of a dose=120 grs.
" not exceeding 3 "	⅓ of a dose= 80 grs.

The kousso should be taken in the morning fasting. The only preparation necessary is that the last meal of the previous evening should be slight. The evacuation of the bowels by a mild purgative or a lavement is also desirable. The mode of administering the remedy is as follows: The powdered flowers are to be mixed with lukewarm water for an adult about ten ounces) and allowed to infuse for a quarter of an hour. A little lemon juice is then to be swallowed, and, the infusion being stirred up, the whole is taken, liquid and powder, at two or three draughts, at short intervals, being washed down by cold water and lemon juice. To promote the operation, tea (without sugar or milk) may be taken. In three or four hours, if the remedy has not operated, a dose of castor oil or a saline purgative should be administered.—*Pharm. Journ.*, July, 1850.

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10. *Styptic Properties of Oil of Turpentine.*—Dr. Wm. Budd, physician to the Bristol Infirmary, highly extols the styptic properties of oil of turpentine, and states that he has met with three cases recently in which hemorrhage was speedily arrested on the administration of oil of turpentine after other medicines had failed. Dr. Budd awards the merit of this discovery to Mr. James Yonge, an eminent practitioner who lived in Plymouth in the time of Charles the Second, and who made his observations public in a pamphlet bearing the quaint title of "Currus Triumphalis è Terebintho."

The next testimony quoted by Dr. Budd is that of the illustrious John Hunter. Speaking of styptics generally, Hunter says: "A dossil of lint, dipped in oil of turpentine, after having first wiped the wound clean, in order that it may reach the vessel, is the best, and may be renewed pretty often. I have seen it immediately stop vomiting of blood from the stomach, after all other means had failed, given internally with white of egg, as often as the stomach would bear it. In external hemorrhages, where it had not the desired effect applied externally, I would give it internally. *It is the best, if not the only true, styptic.* Thus, in a case of nasal hemorrhage, which nothing would stop, I gave ten drops of oil of turpentine in a draught, and repeated it every two or three

hours, which entirely stopped the bleeding in less than twenty-four hours, and it never returned."

These are very remarkable words. They are the words, too, of a man of genius; of a man who was particularly cautious of committing himself to any rash statement; and they refer to a matter on which it is obviously easier to collect evidence free from ambiguity than on almost any other connected with the practice of our art.

The testimony of Mr. Vincent, late senior surgeon to St. Bartholomew's, is to the same effect, and equally strong. After making some observations on the subject of the hemorrhagic diathesis, this experienced surgeon goes on to say:—

"A most desirable object would be obtained by securing some remedy that would alter this peculiar disposition in vessels to bleed, and arrest the loss of blood, so that it may not continue to endanger the life of the patient. I have so invariably found turpentine infallible in effecting this intention, that it may, I think, be depended upon as a most valuable remedy.

"Some years ago, a youth was brought to me who was passing blood in his urine. I ordered some draughts, with a few drops of oil of turpentine. The bleeding quite stopped before the end of the second day, and did not return. About a twelvemonth afterwards, he was brought to me, having cut his finger but slightly. It had continued bleeding for some days. I gave him turpentine again. It stopped in a day or two. Not long after, he came a third time to me. He had had a tooth extracted, and the gum had been bleeding for several days. The turpentine was had recourse to, and the remedy soon acted in the same sanitary way. I have several times been called in on account of hemorrhages where teeth have been extracted, and have never seen the turpentine fail in this or in other similar cases of hemorrhage."

The reader will not fail to remark that the evidence which has now been laid before him not only tends to show that oil of turpentine is possessed of styptic powers of a high order, but that, if this evidence be good, these powers are effectual in issues of blood from sources the most various, and arising from causes the most diverse. Tuberculous hemoptysis, nose-bleeding, hæmatemesis, purpura, and traumatic hemorrhage have little else in common beyond the fact of an unnatural escape of blood from its vessels. The effects of turpentine in purpura, therefore, are most probably directed against not purpura as purpura, but against purpura as hemorrhage. Bearing this in mind, I beg it to be also borne in mind that, in the case of M. A. Riley, not only did the bleeding from the kidney cease immediately after its administration, but that from the intestine also, as well as the tendency to extravasation from the vessels of the skin.

Another very important fact, that would also seem to be established by this evidence, is that turpentine is even more effectual in arresting hemorrhage when directly applied to the bleeding surface than when it is given internally. From these facts, taken together, the inference would seem to be pretty secure that its virtues as a styptic must depend on its exerting some direct influence on the contractile power of the blood-vessels. In the elementary nature of such a property, we seem to find the best, and indeed the only, plausible explanation of the equal efficacy of this medicine in restraining bleeding under such a great variety of pathological conditions. In the adoption of this view, we also obtain, if I mistake not, the best guide to the cases in which its administration is most likely to be successful. They are, on the one hand, the great group of hemorrhages, which are generally characterized by pathologists by the epithet *passive;* and, on the other, those in which, in addition to its general action, the remedy comes into direct contact with the surface from which the blood is issuing. I have had no experience of its effects in hematemesis arising from simple ulcer of the *stomach*, but, from what we witnessed in the case of our patient's *mouth*, I can readily believe that Dr. Seymour is right in the conclusion to which he has come, that in that disease it not only tends to stop the bleeding, but also promotes the healing of the sore.

In what are called active hemorrhages, it would not seem to be so suitable a medicine. We must not, however, be hampered by definitions like these in

cases where life is threatened. Cases of hemorrhage are cases in which, beyond all others, the nice distinctions of pathology have to give way before the great emergencies of practice.

In the treatment of uterine hemorrhage, whether occurring in connection with parturition or not, the employment of turpentine, both topical and internal, admits, I have no doubt, of much more extensive application than it receives at present. Of its great use in severe menorrhagia from common causes I can speak from my own experience; and in the *Provincial Medical and Surgical Journal* for the present week, Mr. Griffiths, of Wrexham, gives a series of cases, from which it would appear that, in the dose of half an ounce or an ounce, repeated once or twice, according to circumstances, this medicine often succeeds in arresting at once the flooding which is apt to occur after delivery, and which is sometimes so appalling.

In common cases, such as those of purpura, for instance, where time does not press, I have found doses varying from ten minims to half a drachm quite effectual; but in cases of rapid loss of blood, where, as sometimes happens, every minute is of importance to life, it is better to give half an ounce or an ounce at once, to be followed up by smaller doses at shorter intervals.

I should mislead you, were I not to add, before concluding, that the use of this medicine is not without its drawbacks. Few great gifts come to us without alloy, and turpentine is no exception to the rule. In the first place, there are few drugs more repugnant to delicate stomachs. In many, it excites vomiting; in others, it causes painful strangury; and the irritation of the urinary organs is sometimes so great that blood is passed with the urine.

Some of these evils may, however, be avoided, or much diminished, by adopting a particular mode of administering the medicine. Thus, I have found that the addition of half a drop or a drop of creasote to each dose almost entirely covers its nauseous taste, and prevents the risk of sickness. Creasote itself is not, it must be owned, the most palatable of drugs, but neither is it nauseating. Ten or twenty drops of spirit of rosemary will help to make the prescription less disagreeable; and of the different vehicles proposed for keeping the turpentine in suspension, I think you will find common mucilage the best.

The inconvenience arising from the risk of strangury is not so easily obviated. Something, however, may be done to diminish it by causing the patient to take freely of diluents pending the employment of the medicine. After all, it is well to know that this accident is not a serious one. However severe the irritation may be, it speedily subsides on suspending the treatment; and, as far as I know, it never leaves any permanently bad effects, even when it has gone on to bloody urine.—*Med. Times*, Aug. 17, 1850.

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11. *External Employment of Liquor Chlorini.*—Drs. Cramer and Schneider have published communications recommending the more extensive use of chlorine as an external application. The good he had seen result from the application of *liquor chlorini* to malignant pustule and similar affections, induced Dr. Cramer to try its effects in bad furunculous swellings, the progress of which was thus surprisingly expedited, and the extension of the ulceration much limited, as compared to what occurs under the use of poultices. So, too, he has derived great advantage in employing it in large abscesses and in buboes, the matter sometimes becoming reabsorbed; and, where this is not so, the progress of the case is still very favourably influenced. Great relief followed its application to the neck in a case of scarlatina, in a child, wherein suffocation seemed impending. He keeps compresses well soaked in the fluid constantly to the part. Dr. Schneider still more strongly recommends its use as a gargle in variolous diseases and in angina. He uses it diluted with water, and finds it exert a remarkable abortive power over variola, when affecting the tongue and throat, and angina in general.—*Brit. and For. Med.-Chir. Rev.*, July, 1850, from *Casper's Wöchenschrift*, No. 8.

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12. *Determination of the Quality of Opium.* By M. Gullermond.—This process for determining the amount of morphia in opium is simple and easy of

execution. A sample of about 15 parts (the author takes 15 grammes, equal to half an ounce), is to be selected from different portions of the mass of opium under trial. This is to be rubbed in a mortar with 60 parts (by weight) of alcohol at 70 degrees (density .890), thrown upon a cloth, and expressed to separate the tincture. The residue is again treated with 40 parts of alcohol of the same strength, and the united tinctures are to be received in a wide-mouthed bottle, containing 60 parts, by weight, of ammonia (density ·923, we presume, according to the French Codex). In twelve hours, the result is obtained; the morphia is separated, but accompanied by a greater or less amount of narcotine, the morphia lining the sides of the bottle under the form of coloured crystals, rather large and rough to the touch; the narcotine being found in small pearly crystals, white, and very light. The crystals are to be collected on a cloth, and washed several times with water, to separate the meconate of ammonia which adheres to them. They are then to be thrown into a small cupful of water. The narcotine, which is very light, remains suspended in the liquid, and can be readily separated by decantation from the morphia, which, remaining at the bottom, can be collected, dried, and weighed. An opium, to be of good quality, ought to yield in this way from 1.25 to 1.50 of crystallized morphia for 51 of opium; some samples yield 1.75.

This process, which succeeds perfectly well with opiums of good and middling quality, does not succeed with opiums which are poor in morphia, or very resinous; but the fact of their not giving results shows that they are of inferior quality, and ought to be rejected.—*Monthly Journ.*, June, from *Bulletin de Thérapeutique*, Feb. 15, 1850.

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13. *New Adhesive Dressing.* By Dr. Mellez.—The eagerness with which collodion was adopted by many practitioners shows their want of satisfaction with the adhesive materials commonly in use. Certain disadvantages attach to all the ordinary means of keeping wounds in apposition, such as sutures, adhesive and isinglass plasters. Collodion, which possesses many valuable qualities as an adhesive, requires, in order to give satisfactory results, to be of a precise degree of concentration, and, like other dressings, demands, in order to be nicely applied to wounds, the aid of assistants, which is not always at the command of the surgeon, especially in country practice, where he must often operate without the aid of others, and where the patients cannot be visited, except at long intervals.

From his dissatisfaction with the ordinary adhesive dressings applied under such circumstances, Dr. Mellez was led to adopt a solution of "gum lac," which is much used in the arts as a varnish and adhesive.

He uses a solution of this substance in spirit of wine, made with the aid of a moderate heat and in such proportion as to give a mixture having the consistence of jelly, or nearly approaching to it. It can be made in a common wide-mouthed bottle, and a simple cork suffices for its preservation. When he uses it, he spreads it with a spatula upon pieces of cloth or taffetas, cut to the size required. According to him, it possesses all the good properties of collodion, and even higher properties than that substance—viz., contraction during its desiccation, impermeability to air, absence of all irritating action on the skin or wound, intimate adherence to the skin, and resistance to the action of water, fatty matters, or the discharges from the wound. It has not, like collodion, the quality of being colourless; but he believes that it might, if required, be decolorized, and, if applied upon animal membrane, would furnish a transparent dressing. It does not dry so quickly as collodion, but that is the only advantage the latter possesses. The lac dressing, however, does not require so long time as to be inconvenient to the surgeon. Moreover, it is not indispensable for the lac, as it is for the collodion, that the skin be absolutely dry. It has further the advantage (not to be overlooked) of being more moderate in cost.—*Ibid.*, June, 1850.

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14. *Formulæ for the External Use of Glycerine.*—Mr. Startin furnishes the following useful formulæ for superficial burns, scalds, or excoriations; intertrigo, chaps of the lips, herpes labiorum, &c.: ℞. Gum tragac. pur. ʒij ad

℥ss; Liq. calcis ℥iv; Glycerine purif. ℥j; Aq. rosæ dest. ℥iij. To form a soft jelly, to be used by way of ointment or embrocation.

For prurigo, lichen, strophulus, lepra, psoriasis, pruritus, &c.: ℞. Acid. nitric. dil. ℥ss ad ℥j; Bismuth. trisnitr. ℥ss; Tinct. digitalis ℥j; Glycerine purif. ℥ss; Aq. rosæ ℥viiss. M. for a lotion, to be used by dabbing the part.

For chapped nipples or hands, fissures of the lips, irritation of the skin of any kind, as after shaving, exposure to the sun, for pityriasis, &c.: ℞. Sodæ biboracis ℥ss ad ℥j; Glycerine pur. ℥ss; Aq. rosæ ℥viiss. M. for a lotion, to be used by dabbing the part affected.

For alopecia following fevers, &c., or for the falling off of the hair, dryness, or want of action of the scalp, thinness of the hair, &c.: ℞. Sp. ammon. co. ℥j; Glycerine pur. ℥ss; Tinct. cantharid. ℥j ad ℥ij; Aq. rosmarin. ℥vij. M. for a lotion, to be used with a wet hair-brush once or twice a-day.

For "hot" rheumatism, or arthritic gout, neuralgic pains, sprains, bruises, stiffness, &c.: ℞. Lin. saponis comp. ℥iss; Glycerine pur. ℥ss; Ext. belladon. ℥j, &c. M. for an embrocation, to be used twice in a day in the ordinary manner.—*Ranking's Abstract.*

MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

15. *Theory of the Formation of the Fibrinous Concretions on the Valves of the Heart.*—John Simon, Esq., in his interesting lectures on General Pathology, delivered at St. Thomas' Hospital, reported in the *Lancet*, makes the following important remarks on this subject:—

"The general opinion, which till very lately has been unquestioned, is that the lining membrane inflames, and pours out lymph (just as the pleura or pericardium might do), and that these vegetations are *excrescences*, which have thus arisen in the inflammatory process.

"Now here on the threshold of the subject, a doubt occurs—Is the lining membrane of the arterial system susceptible of inflammation? 'Inflammation,' in the language of the schools, 'consists in an increased action of the blood-vessels of a part.' Without pledging ourselves for the accuracy of this definition, we may use it in the present instance as a rough criterion of inflammation; at least, negatively. No part can be said to inflame, in the ordinary sense of the word, which has not vessels of its own. You cannot talk of inflammation of the hair or nails. What, then, are the blood-vessels of the lining membrane of the arterial system, which this theory supposes to be the seat of an increased action? That portion of an artery which we term its inner coat has no blood-vessels of its own, nor do those of the middle or contractile coat (which are derived from the so-called *vasa vasorum*) penetrate to a sufficient depth to influence materially (if at all) the nutrition of the lining membrane.

"In the museum of the College of Surgeons, there is a preparation of Mr. Quekett's (an injection done, as all Mr. Quekett's are, with admirable success), which shows how very much the *vasa vasorum* falls short of reaching the lining membrane of the artery. And—if you will but think for a moment—what should *vasa vasorum* do there? what could they convey more fit for the nutrition and growth of the membrane than what is already there? than that blood, namely, which is already washing over it incessantly and profusely?

"And again, gentlemen, reflect on this: the lining membrane of the artery and of the valves has an epithelium; wherever epithelium grows, the old cells drop off in a direction opposite to that whence the new ones derive their materials of growth. Just as our scales of epidermis drop from the surface of our bodies, being nourished and renewed from within, just so, if the epithelium of an artery were renewed from without (*i. e.* by *vasa vasorum*), the old scales, as fast as they become detached, would drop into the interior of the vessel; and though, no doubt, their decay is very slight, and the number that might thus

pass into the circulation, and presently obstruct the capillaries, would be very small, still it would be essentially a clumsy arrangement.

"From a variety of reasons, it seems almost certain that the nutrition of the lining membrane of the circulating system is derived directly from the blood with which it has contact; and that its morbid changes depend, not on any inflammatory condition due to the *vasa vasorum*, but on those humoral changes, those variations in the qualities of the blood, by which it is more immediately and more certainly affected than any tissue of the body.

"On these grounds there would be great *prima facie* difficulty in believing that the endocardial deposits could be of inflammatory origin. But this is not all; for, if they were inflammatory exudations, why should they be so peculiarly limited to projecting or uneven surfaces of the lining membrane? And why should they evince so decided a preference for the *left* side of the heart? Both sides of the heart, and all points of each cavity, are (one would think) equally exposed to the causes of inflammation; the coronary arteries supply both ventricles of the heart indifferently; and we well know that acute pericarditis pays no respect to the grooves and septum of the heart; it traverses all such lines of demarkation, injects the blood-vessels of right and left sides alike, and covers ventricles and auricles equally with its dense inflammatory exudation. On the supposition that these vegetations are inflammatory effusions from the membrane, I should be quite unable to explain why they should almost entirely confine themselves, as they do, to the valvular apparatus; and why the predilection for the left side should be so great that the right is very rarely affected—perhaps never, except where the left has first suffered, and where the disease has been of such extreme intensity that even its weaker affinity for the right side has been able to manifest itself.

"The opposite doctrine is the more tenable one. I believe that the origin of these vegetations is directly humoral; that they arise as fibrinous precipitations from an overcharged solution—the valves encrusting themselves with fibrin just as a stick in certain streams coats itself with a calcareous envelop; and that the preference shown for the left side of the heart admits of explanation by reference to the peculiarities of its contents—the new-made arterial blood.

"You will observe that this theory involves the supposition that arterial blood is more prone than venous blood to precipitate its fibrin, either as containing more of it, or as containing it in some more separable form.

"Not wishing to leave this a matter of uncertainty, I have experimented on the subject. I have carried a single thread, by means of a very fine needle, transversely through the artery and vein of a dog, leaving it there so that it might cut the stream; and I have done this repeatedly, sometimes in the femoral vessels, sometimes with the carotid and jugular, sometimes with the aorta and cava. I have suffered the thread to remain during a period of from twelve to twenty-four hours. My experiments have given me, as a uniform result, that the arterial blood with the utmost readiness deposits its fibrin on the thread; the venous blood with the utmost reluctancy. And in most of my experiments, the thread, where it traversed the canal of the artery, presented a very considerable vegetation on its surface (exactly like those we are talking of on the valves of the heart); a vegetation sometimes as large as a grain of wheat: always of a pyramidal shape, with its apex down-stream, and its base attached to the thread. In the artery, one might say that the thread whipped the blood, just as one whips blood in a basin to get the fibrin out of it; but with this trifling difference, that, instead of the rod beating the fluid, the fluid ran over the rod and precipitated its fibrin there. In the vein, the thread seemed to operate no way but obstructively; never coating itself with fibrin, but sometimes delaying or stopping the circulation with a voluminous black clot, chiefly collected on that side of the thread remotest from the heart. Accordingly, the general statement and rationale of the matter appear to be as follows: The disease in which these deposits are so frequent is one of intense over-fibrination of the blood, and one in which almost certainly there are other conditions besides quantity making the fibrin easy of precipitation; the left side of the heart has preference, because it is the arterial side, and because arterial blood, as we have seen, readily parts with its fibrin; the valves, and particularly their stream-

ward surfaces, are chosen for the deposit, because their position exposes them chiefly to the friction of the current; so that the whole curious selection of site for the deposit resolves itself into the concurrence of two conditions, which are fulfilled in that one spot of the vascular system—namely, the greatest chemical tendency to the deposition of fibrin, with the greatest mechanical facilities for its entanglement.

"In introducing this subject, I mentioned that it is one of great practical importance. Many people bleed locally, or even generally, when they hear an endocardial murmur arising in the course of rheumatic fever. In their eyes, the new disease is endocarditis; and everything ending in *-itis* is thought, in at least a majority of instances, to be benefited by bleeding. Therefore, gentlemen, do not be in a hurry to call it endocarditis; and, as for bleeding, all that I would venture to say (for of course the treatment of this physician's disease does not fall within my province) is to assure you of the pathological fact that you may bleed a patient to death without altering (except probably to increase) the proportion of fibrin in his blood.

"I may mention, however, as of some pathological interest, that, in a recent work on Diseases of the Joints, by a French surgeon of considerable experience (M. Bonnet of Lyons), a section is devoted to the treatment of acute rheumatism by nitrate of potass in large doses (up to an ounce or an ounce and a half per diem). He speaks of its utility in the highest terms, and he quotes with full concurrence a passage from M. Gendrin, who has likewise used the medicine very extensively, to the remarkable effect that this method of treatment possesses this, among other advantages, that it prevents inflammation of the endocardium—*il prévient les endocardites.* You will find an interesting paper, on the same method of treatment, communicated by Dr. Basham to the Medico-Chirurgical Society, and published in the last volume of their *Transactions.*

"Now we know that nitrate of potash is a powerful solvent of fibrin; we know that in these large doses a quantity of it must be retained in the blood, and we are thus enabled to interpret the efficiency of the remedy in accordance with our knowledge of the disease. Nitre, if present in the blood in sufficient quantities, would prevent fibrinous concretions on the valves, by increasing the solubility of their material, and diminishing its liability to precipitation."

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16. *Exudation; its Pathology and Treatment.*—This is the title of a comprehensive essay, by Dr. Hughes Bennett, in which we have a minute and explicit account of the varieties of exudation, upon which, as he observes, depend the majority of the diseases which we are called upon to treat. The varieties alluded to are—the simple, the cancerous, and the tubercular exudation. Dr. Bennett gives a brief explanation of the term "exudation," and then proceeds to describe—

1. *The Early Phenomena of Exudation.*—The changes which are associated with this process are stated to be: 1. Narrowing of the capillaries, with acceleration of blood current. 2. Dilatation of these vessels and retardation of the current. 3. Irregularity in the currents. 4. Stagnation of the blood. 5. Liquor sanguinis permeates the coats of the vessels. These various processes are well seen in the circulation of the frog's foot.

2. *Theory of Exudation.*—The first step in the process, Dr. Bennett observes, is explicable on the supposition that the capillaries are endowed with muscular fibres; the narrowing of their calibre is due to the contraction of these, the dilatation to their subsequent relaxation.

The rapid and slow movement of the blood is accounted for on the hydraulic principle that, when a certain quantity of fluid is propelled through a tube, its velocity alters, the propelling force being the same, according as the tube is narrowed or widened. The stoppage of the blood, and the exudation of liquor sanguinis, he considers more difficult of explanation. The theory advanced by some, that it is due to the formation of large numbers of colourless corpuscles, and their adherence to the sides of the vessels, he does not consider tenable. His own conviction is that the phenomenon is due to some change not in the blood or in the vessels, but in the extra-vascular tissues; a modification, per-

haps, of the force which, in the physiological condition, attracts nutritive materials from the blood.

3. *Results of Exudation.*—The series of phenomena which follow upon the act of exudation are regulated materially by the physical qualities of the liquor sanguinis. This varies under certain conditions of system, to which the term diathesis is given, and it accordingly becomes necessary to consider exudation in its simple form, and as it occurs under the two leading diatheses, the cancerous, and the tubercular.

I. *Simple Exudation*, according to Dr. Bennett, presents four forms: 1. As it occurs on serous membranes, in which it has a tendency to fibrillate. 2. As it occurs on mucous membranes, with a tendency to conversion into pus globules. 3. As it occurs in parenchymatous structures, when it is granular. 4. As it is seen in wounds and sores. Dr. Bennett describes each of these varieties at length, and illustrates them by several wood-cuts, for which we must refer to the original.

II. *Cancerous* exudation presents three principal forms, which are dependent on the relative amount and arrangement of the cells and fibres formed in it. 1. The structure is very hard, and is principally formed of fibres (*scirrhus*). 2. The structure is soft, containing a copious milky fluid, in which numerous corpuscles swim (*encephaloma*). The structure has a fibrous basis, so arranged as to form areolæ or loculi, containing a gelatinous gum or glue-like matter (*colloid cancer*).

1. *Scirrhus* presents to the naked eye a whitish or slightly yellowish tinge; is dense and hard to the feel, and offers considerable resistance to, and often crunches under, the knife. On making a thin section of the growth, it is seen to be principally composed of filaments, which vary in size, and run in different directions, sometimes forming waved bands, at others an inextricable plexus, among which, however, nucleated cells may be seen to be infiltrated. Occasionally the fibrous structure forms loculi or cysts, enclosing similar cells. The so-called *cancer-cells* may be round, oval, caudate, spindle-shaped, oblong, square, heart-shaped, or of various indescribable forms, from pressure on their sides. In size they may vary from the $\frac{1}{100}$ th to the $\frac{1}{70}$ th of a millimetre in diameter. The cell-wall, when young, is smooth and distended; when old, it is more or less corrugated and flaccid. Each cell contains at least one nucleus, often two, and sometimes they increase in number from three to nine. Most commonly there is only one, which is round or oval, generally the latter, and contains one or two granules or nucleoli. The nucleus, like the cell itself, varies in size, and may occupy from one-sixth to four-fifths of its volume; between the nucleus and cell-wall there is a colourless fluid, which, at first transparent, becomes afterwards opalescent, from the presence of molecules and granules. On the addition of water, the cell-wall becomes distended by endosmosis, and is enlarged. When acetic acid is added, the cell-wall is rendered more transparent and in young cells is entirely dissolved, whilst the nucleus, on the other hand, either remains unaffected, or its margin becomes thicker, and its substance more or less contracted.

2. *Encephaloma* also presents a fibrous texture, which, however, is very loose when compared with that of scirrhus. In the denser parts of the growth, indeed, it closely resembles that form of cancer; but where it is pulpy and broken down, often no traces of fibres, or at most some fragments of them, are visible.

The whitish cut surface is often more or less mottled, with a grayish, pinkish, reddish, yellowish, or black colour. The first two are owing to different degrees of vascularity. The reddish spots are owing to extravasations of blood, of greater or less extent; and these, when very large, constitute what has been called by some surgeons *fungus hæmatodes*. The yellowish colour, when it surrounds bloody extravasations, is owing to imbibition of their colouring matter; but when reticulated over the surface, or collected in masses, it is generally dependent on fatty degeneration of the cancerous tissue, and forms the so-called reticulum (*cancer reticulare of Müller*). The yellow matter is usually of cheese-like consistence, friable, and often resembles tubercle, for which it has been mistaken. The blackish tinge is owing to black pigment, which may be infil-

trated among the cancerous elements, and exist within the cells, constituting the malignant melanosis, or melanic cancer, of authors.

3. *Colloid cancer* consists of a fibrous structure so arranged as to form areolæ or loculi, which are filled with a gray or amber-coloured glutinous matter, sometimes transparent, at others opalescent or semi-opaque. This matter is occasionally found quite structureless, or exhibits only a finely molecular appearance. Under these circumstances, the term *colloid tissue* has been applied to it. At other times, numerous nucleated cells, presenting all the characters of cancer cells, in various stages of development, are found in it as a blastema; and we observe that the growth has a tendency to spread. This is colloid cancer, which, when it is formed on a free surface, as on the peritoneum, often presents small grains of a gray colour, resembling coagulated gum Arabic. When collected in masses, these have an irregular nodulated aspect.

III. *Tubercular Exudation* has been spoken of as presenting a miliary infiltrated or encysted form; but these distinctions have no reference to structure, but merely to the extent and age of the exudation. On section, when tough, it presents a smooth or waxy, and when soft, a slightly granular surface. On pressure it is friable, and may break down into a pulpy matter, but never yields a milky juice.

A small portion squeezed between glasses, and examined under the microscope, presents a number of irregular-shaped bodies approaching a round oval, or triangular form, varying in their longest diameters from the $\frac{1}{120}$th to $\frac{1}{75}$th of a millimetre. These bodies contain from one to seven granules, are unaffected by water, but rendered very transparent by acetic acid. They are what have been called tubercle corpuscles. They are always mingled with a multitude of molecules and granules, which are more numerous as the tubercle is more soft. Occasionally, when softened tubercle resembles pus, constituting scrofulous purulent matter, we find the corpuscles more rounded, and approaching the character of pus cells. They do not, however, on the addition of acute acid, exhibit the peculiar granular nuclei of these bodies.

The gray granulations described by Bayle may be seen, on careful management of the light, after the addition of acetic acid, to contain similar bodies to those described as tubercle corpuscles, closely aggregated together, with their edges indistinct, and containing few granules.

Cretaceous and calcareous tubercles, on the other hand, contain very few of these bodies, their substance being principally made up of numerous irregular masses of phosphate of lime, and a greater or less number of crystals of cholesterine.

4. *Pathology of the three kinds of Exudation.*—We have seen that the liquor sanguinis transudes through the coats of the capillaries, and, coagulating outside the vessels, constitutes an exudation more or less solid. Much of the serum which accompanied it is rapidly absorbed, but what remains constitutes a blastema, which becomes, as has been described, organized in various ways, according to the seat of the exuded material. Dr. Bennett sums up the most important characters of the three kinds of exudation as follows:—

"We observe in a simple or inflammatory exudation, that it may occur at all epochs in life; that it may attack all tissues, and most commonly those which are very vascular; that it may be poured out in large or small quantities; and that it may occur with greater or less rapidity—hence the terms acute and chronic. We further observe that the acute exudations are generally attended with symptoms of a peculiar character (inflammatory), and have a great tendency to cell or temporary formations, which rapidly break down, are absorbed and excreted by the emunctories; that the chronic exudations, on the other hand, have a tendency to fibrous or permanent formations, producing adhesions, strictures, hypertrophies, &c.

"We observe, in a cancerous exudation, that it occurs for the most part in persons of adult or advanced life; that it may also occur in every tissue, but is by far most common in glandular or fatty organs, such as the liver or female mamma, and is very apt to attack the lymphatic glands *secondarily;* that its progress, although sometimes slow when very fibrous, becomes rapid when corpuscles abound in it; that there is a great tendency to the formation of the

most perfect forms of cell life, which have the power of self-development, and thereby of spreading to neighbouring tissues; and lastly, that when, by pressure, ulceration is produced on free surfaces, it bursts through these in exuberant fungoid excrescences.

"We observe, in a tubercular exudation, that it occurs for the most part in young subjects, between the periods of dentition and of adult age; that it may also occur in all tissues, but is by far most common *primarily* in the lymphatic glands, and afterwards in fibrous or albuminous textures, as the lungs and serous surfaces; that its progress is generally exceedingly slow; that there is no disposition to the formation of perfect cell-formation, but rather to abortive corpuscles, which form slowly, and slowly break down; that there is little tendency to absorption, but great liability to disintegration and ulceration; and finally, that the local changes are almost always preceded by derangement of the primæ viæ, and a group of symptoms known under the name of dyspepsia.

"Taking, then, the products of simple inflammation (say pus) as a standard, we cannot fail to remark that, whilst the cell-development of tubercle is below, that of cancer is above this standard. Of the three kinds of exudation, tubercle is the lowest, and cancer the highest, in the scale."

On what the difference in the developmental power of the exudation depends, the author does not profess to say: but he is inclined to the belief that it is due to some inherent property in the matter itself. This, as he observes, is generally admitted, pathologists tracing variety of exudation to variety in composition of the blood; but here they stop, forgetting, apparently, that there must be a cause for the difference in the blood, and that this cause requires elucidation.

The solution of the question Dr. Bennett thus attempts. He says that numerous facts "render it probable that, while the blood is normal in simple exudation, it contains an excess of nutritive materials in cancerous, and a deficiency of them in tubercular exudation."

5. *Treatment of Exudation.*—The indications of treatment mentioned by Dr. Bennett are three—1, to prevent or diminish exudation; 2, to assist its removal when deposited; 3, when this cannot be accomplished, to render it as innocuous as possible. The manner of accomplishing this is laid down in the following words:—

"1. To prevent or diminish the extent of an exudation, we must adopt measures to overcome the dilatation of the capillaries, their distension with blood, and the attractive power (whatever that is) which draws the liquor sanguinis into the surrounding textures. This is accomplished—1st. By topical applications of cold and astringents, which stimulate the capillaries to contraction. 2d. By topical blood-letting, which, by drawing blood from the neighbourhood of the part, favours the onward flow of blood through the obstructed capillaries. 3d. By general blood-letting, which, by diminishing the quantity of blood in the system, is supposed to act indirectly in the same manner, as well as in favouring absorption of the exudation before it becomes organized. 4th. Soothing topical applications, such as warm fomentations, opiates, &c., which relieve the irritability of the nerves in the part, on which, hypothetically, the attractive force in the textures is supposed to depend. The indications for employing one or the other of these means, I shall discuss under the head of special cases.

"2. When the exudation has coagulated, it constitutes a foreign body, which can only be removed by its becoming organized, or by its dying. In the one case it acts as a blastema, in which structures are developed that ultimately break it down, and render it capable of being absorbed, or converted into a tissue that becomes permanent. In the other case, it disintegrates slowly, constituting ulceration, or putrefies, forming gangrene, when it is separated from the economy in discharge or as a slough. It is by regulating the formative power of the exudation that we check or favour resolution; and we can only do this by employing those means which lessen or advance growth in all living organisms. Thus, locally, cold checks, and heat favours, growth; and we further observe that moisture, room for expansion, and locality, exercise considerable influence. Hence lotions favour, and pressure checks, organic development.

"With a view of diminishing the general excitement that prevails, tartar

emetic has been recommended, and to assist the absorption of the exuded matter, calomel is a favourite remedy: but the manner in which these act has been disputed, and whether it be by producing an influence on the nervous system, as a solvent of the effete matters in the blood, or by stimulating the excretions, is yet undetermined. In the same way, the action of counter-irritants, although undoubtedly useful in causing absorption of chronic exudations, is little understood, and belongs to the most mysterious department of therapeutics.

"3. In order to favour the excretions of the effete matters in the blood, purgatives, diaphoretics, and diuretics, alone, or combined, will be found very useful. The influence of these remedies, indeed, is not confined merely to removing matters which have been absorbed as the result of the secondary digestion; but by their depurating qualities, they favour indirectly the rapid absorption of the exudation.

"4. In tubercular exudation, the organization of which is imperfect, and leads to ulceration and wasting, we have to combat the preliminary phenomena of exudation locally, whilst we improve the nutritive powers of the economy generally. To meet the first indication, counter-irritation and an equable climate are useful; whilst for the second, we must overcome the dyspepsia, so hostile to a correct primary digestion, and supply the system with easily assimilable animal oils, without which nutrition cannot proceed.

"5. In cancerous exudations, we must endeavour to restrain the advance of growth, by cold, dryness, and pressure; attempt its eradication by incision, if this can be appropriately practiced; and diminish the tendency to accumulation of nutritive materials in the system, by keeping the excretory functions in full activity."—*Ranking's Abstract*, vol. xi., from *Edin. Month. Journ.*, April, 1850.

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17. *Case of Hemiplegia in which Loss of Speech was a prominent Symptom.* By Robert Dunn, Esq. (*Proceedings of Royal Med.-Chirurg. Society*, June 25th, 1850.)—The subject of this communication died in a state of coma, on the 18th of April last, in the sixty-sixth year of her age. It was her third apoplectic seizure. She was of a mixed temperament, the sanguineous and nervous, and of active habits. Her first attack occurred on October 6, 1844, at four o'clock in the morning, up to which time she had enjoyed good health. The author, on being called, found her in a state of coma, with stertorous breathing, head hot, face flushed and turgid, mouth drawn down to one side, pulse full and labouring. She was bled and purged freely. In a few hours, she became conscious, but was found to be hemiplegic on the right side. Her recovery was quick: she regained the free and full use of the arm and leg, and, in a few months, her general health appeared to be completely re-established. One peculiarity remained, which arrested the attention of the author and led him to suspect the existence of some structural lesion of the encephalon—the habit of using one word for another, and of not applying the proper and appropriate names to the things signified. Her second attack took place on May 17, 1847. She was found by her daughter, on the morning of that day, lying in a state of insensibility, on her back, upon the floor of her bedroom. The author was struck with the contrast between the symptoms of this and those of the former seizures. There was the same deep coma, but no stertor; the face was pale, and bedewed with a cold, clammy moisture; the extremities were cold and the pulse was feeble, weak, and fluttering. An opposite treatment was indicated and followed. Ammonia and Hoffmann's anodyne were given freely. She was again found to be hemiplegic on the right side. Active reflex movements were excited by tickling the foot, but none could be induced in the upper extremity. She slowly but gradually improved, and ultimately got remarkably well; but she was paralyzed and speechless for the remainder of her life; all the senses were intact; the motions of the tongue were free, and there was no difficulty in deglutition. She was perfectly sensible, and took an interest in passing events. But she could not even say yes or no, and never got beyond the utterance of the monosyllable dat! dat! The conscious failure of the effort found expression in a hopeless shake of the head, and often in a gush of tears. The last and fatal attack took place on the 14th of April, when in the act of being undressed

for bed. She was found by the author in a state of extreme collapse, and comatose, with loud stertor, and with the left side as helpless as the right, completely paralyzed. The teeth were so firmly fixed that nothing could be got into the mouth, and she died on the fourth day of the attack.

Post-mortem examination.—At the post-mortem inspection, the upper two-thirds of the anterior lobe of the left hemisphere were found in a state of disorganization—a pulpy mass; the middle and posterior lobes were healthy; the corpus callosum was destroyed, except at its anterior and inferior reflection, and so also was the upper half of the corpus striatum, on the left side. The optic thalamus was likewise shrunken to less than half its natural size, its upper surface being greatly wasted. The anterior commissure and fornix were gone, but the corpora geniculata were sound. On the right side, the hemisphere was healthy, but when its lateral ventricle was laid open, a small and recent apoplectic clot was seen upon the upper and anterior surface of the corpus striatum; the whole of the upper portion of the corpus was in a state of *ramollissement*, and indications of white softening were seen also on the outer surface of the thalamus. The cerebellum and basis of the brain were healthy. The author considers the case to present some points of interest in reference to the localization of the faculty of speech. He observes that a great mass of evidence has been collected in support of the opinion of Gall, that the seat of the faculty of speech is in the anterior lobes of the brain. He refers to the Memoirs of M. Belhomme and M. Bouillan, read before the Académie Nationale de Médecine de Paris, in 1848, in support of Gall's opinion, and then cites two opposing cases from Andral's "Clinique Médicale, Maladies de l'Encéphale," in which the disease was in the corpus striatum. In considering this subject, he says: It is never to be forgotten that perfect speech—that is, the power of giving utterance to our thoughts in suitable and appropriate language—depends upon the due relation between the centres of volition and of intellectual action, and that, thus considered, the apparently conflicting evidence which has been adduced, as to the seat of the faculty of speech, admits, in his opinion, of a satisfactory explication. The thought is framed and moulded for expression in the centre of intellectual action, but the due agency of volitional power, and consequently the integrity of its seat of action, are needed to give it utterance. And while it is universally admitted that the cerebra are the great centres of intellectual action, he believes with Gall—and of which the present case affords corroborative proof—that the anterior lobes are the seat of the faculty of speech, and he asks, Is it not equally true that the corpora striata are the great centres of volition? and therefore, Does it not necessarily follow that loss of speech may alike result from diseases of the anterior lobes, or of such portions of the corpora striata as are in direct relation with them? He concludes by saying (in the case narrated), it is manifestly obvious that, with the disorganization of the left anterior lobe, its functional power was entirely abolished; and that although the right hemisphere was healthy—and there is every reason to believe, from the history of the case, that it maintained and exercised its function as a centre of intellectual action—still the volitional power was wanting to give utterance to the passing thought, for the corpus striatum was not in its integrity.

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18. *Auscultatory Sign of Enlarged Liver.*—Dr. Walshe has described, in the *Lancet*, a stethoscopic indication of enlarged liver, under the name of "*hepatic compression rhonchus.*"

"It coexists with inspiration only, or indeed, seems to be rather superadded to it, not commencing until the inspiration-murmur appears almost at an end. Its evolution is peculiarly slow, drawling, and (if I may be allowed the expression) lazy, being, in this respect, the exact reverse of that of the crepitant rhonchus of pneumonia. It consists of a variable (but commonly a great) number of excessively fine, dry crepitations, rather superficial than deep-seated; is rendered audible by forced inspiration only, and may be heard in front, at the side, and in the back of the right half of the chest (least commonly in front, however), at or near to the upper edge of the liver. Its existence is completely independent of any lung affection; and I have never found it on the left side,

in these cases of liver enlargement. The characters of this rhonchal sound are so peculiar that a mere tyro would be able to distinguish it from all other varieties of rhonchus—it differs essentially, as I have just proved, from crepitant, subcrepitant, and dry crackling, pulmonary rhonchi, and from pleural rhonchus. Of its mechanism I am not prepared at present to offer any demonstration; but it appears to me to be most feasibly explicable as follows: The lower portions of the lung, pressed upon by the enlarged liver, undergo a sort of creasing, or condensation, which, in ordinary breathing, interferes with their expansion. By forced inspiration, the portion of lung implicated will readily be understood to be *uncreased*, and so conceivably a series of sounds, such as I have described, is produced. Another fact strongly corroborates this hypothesis—namely, that it often ceases to be audible, for a time, after from one to five or six forced inspirations: the lung seems to require rest and time to be again creased up. Should further experience confirm this view of its mode of production, we shall have collateral support given to the doctrine I have long taught (and which, so far as I know, has not been refuted), that the crepitant rhonchus of pneumonia is formed, not in the air-cells or capillary bronchi, but in the pulmonary parenchyma itself. I am not able, as yet, to make any positive assertion concerning the frequency with which the rhonchus under consideration attends enlargement of the liver; but, on the other hand, I am in a position to affirm that, in no single case of notable increase of bulk of that organ which has fallen under my observation, since my first discovery of the rhonchus, have I failed to substantiate its existence. The sound may, it is true, escape detection on one or more occasions, but has never been absent for a series of days. On the other hand, I have not met with it in other conditions of disease; though, doubtless, if my theory concerning its formation be well founded, it will probably be ascertained to accompany a variety of conditions, causing slight compression of the lung."
—*Lond. Journ. Med.*, August, 1850.

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19. *On Fatty Diseases of the Heart.* By Richard Quain, M. D. (*Proceedings of Royal Medical and Chirurgical Society*, March 12th, 1850.)—The author commenced by referring to the circumstances which had directed his attention, five years ago, to the subject of these diseases, to the want of information which then existed, and to the essays which had since been published. He said there were two forms under which fat occurred as a disease of the heart. In one form, "fat tissue" grew upon and amongst the fibres—concealing them, in some cases, to such an extent as to lead to the supposition that the heart's walls were composed of fat. In such cases, the fibres may still be found unchanged in structure, when the part is examined with the microscope, but more or less distorted in their course by the existence of large fat cells amongst them. He referred to the circumstances which seemed to direct the distribution of fat on the heart, and the parts where it was most abundant. In the second form, the muscular fibre became disintegrated, and degenerated into a granular or molecular fatty matter. In such cases, there was not of necessity any fat growth on or about the heart. He traced the progress of this change in the fibre, as shown by the microscope, and presented in drawings the appearances described. He showed the effects which the presence of this fatty matter in the place of muscular fibre must have on the physical characters of the heart, on its colour, its consistence, etc. He pointed out the circumstances by which the appearances were modified, as well as those which guided us in ascertaining its presence. In the next place, under the head of "Preceding Observations on these Diseases," the author gives a very complete account of the extent of our previous knowledge on the subject. He followed by successive steps the progress of our information, from the period of the oldest authors whose writings bore thereon, to the age of Harvey, through subsequent writers, to the present time; he showed that the disease here described as true fatty degeneration of the fibres of the heart had been recognized, though, like fatty degeneration of the liver, the exact change in the fibre has not been distinctly ascertained. For information on this latter point, we are indebted to the researches of Williams, Peacock, Rokitansky, Paget, Ormerod, and others.

The author took occasion here to contrast the characters of fatty degeneration of the heart with those of fatty degeneration of voluntary muscles.

Thirdly, he traced the circumstance under which these diseases occurred. He showed the relation which the growth of fat on the heart bore to the presence of its elements in the blood, and to the influence of the age, sex, habits of life, etc. of the individual on this condition. On the other hand, he described fatty degeneration as being a process of decay or true degeneration. He established this conclusion by a series of observations on the microscopical and chemical characters of the substance called adipocere, by experiments made by himself and others on the artificial formation of fatty matters in albuminous and fibrinous textures external to the body, and by the identity of the appearances in the artificial and the natural processes. He mentioned a great variety of circumstances under which this change took place in the living body, in which it must have occurred independently of any direct communication with the vascular system. He quoted the names of several authorities on these points, but more particularly, in reference to their pathological import, those of Williams, Paget, and Rokitansky; and established the inference that, when the vital properties of these higher animal substances were impaired, they yielded to the physical influences by which they were surrounded, and fell into a class of more simple compounds, shared by them with plants and minerals. He showed, by reference to Mr. Paget's observations, that the first step in this process was an impairment of the nutrition of the organ; and then he showed how this impairment occurred; first, the heart participating in a general malnutrition of the body; or, secondly, suffering locally by disease of the coronary vessels, or as the ultimate effects of endo- and peri-carditis. Numerical illustrations of these facts were given. The author then referred to the diseases which were found in association with this condition, they being chiefly degeneration of other organs, blood-vessels, etc. The most frequent seat of the disease, the age, the sex, the station in life of the individuals, and various facts in connection with the history of the disease, were also numerically illustrated. The characters of the so-described soft, flabby hearts, and the difference of opinion as to their nature, were discussed, and their relation to fatty degeneration considered.

Fourthly. The effects of these diseases were described as being those connected with impairment of structure and function, causing derangement of the circulation, etc. It was shown that of fifteen cases of extreme accumulation of fat on the heart, five had suffered from giddiness and coma, eight from syncope, and nine from short breath, languid circulation, etc. Of the fifteen, fourteen had died suddenly—viz., by syncope, or in an analogous condition, ten; by rupture of the heart, three; by coma, one. In reference to the effects of fatty degeneration on the structure and functions of the heart, the author showed that it was found in connection with hypertrophy in thirty-nine out of sixty-eight cases. He believed this to be due to hypertrophied hearts suffering from impaired nutrition more readily than other hearts—not, as Rokitansky supposed, to a disturbance of the balance of the nervous functions. The heart may be found unchanged in size, or decreased. The diminished consistence of the tissue permitted the occurrence of some of the most fatal lesions to which the organ is liable; viz., rupture, which took place in twenty-five of the sixty-eight recorded cases. In twenty cases, the rupture perforated the walls of the heart. In five other cases, it was incomplete, being confined either to the internal surface, the external surface, or in the substance of the heart. Rupture in the substance gave rise to the appearance called by Cruveilhier cardiac apoplexy. The blood effused in these cases may become encysted, and, losing its colour, give rise to the appearance of an abscess. Cardiac aneurism may also be formed. Illustrations of these facts were given from the tables of cases. The effects of fatty degeneration on the heart's functions gave rise to coma, and even apoplexy. The power of the right side of the heart being weakened, its cavities became filled, and the circulation obstructed. Illustrations from preceding writers on this point were given. The impaired powers of the left side of the heart were, on the other hand, a frequent cause of faintness or syncope; it was present in fifteen cases. This syncope may amount to

a mere feeling of faintness, or to so complete an arrest of the vital powers as to cause death. Sudden death occurred in fifty-four of sixty-eight cases, in twenty-one of which it was by syncope. Pain in the region of the heart and breathlessness, with certain peculiarities in each, were also numerically illustrated, and the causes on which they depended considered. The syncopal feelings, the pain, and the breathlessness may occur independently of each other, or in combination; they may thus give rise to the phenomena known as angina pectoris. It appeared to the author that this condition of the heart afforded in many cases a sufficient explanation of the pathology of this disease; and he expressed his opinion that many of the cases in which no disease of the heart had been observed, in which the symptoms were attributed to disease of the coronary arteries, or to fat on the heart, were in all probability examples of this fatty degeneration, which had so long been overlooked. He confirmed this opinion by the details of cases in the tables.

Hereditary predisposition, and the duration of the disease, were treated of so far as the facts permitted.

Fifthly. The symptoms and diagnosis of these diseases, more particularly in reference to fatty degeneration, were described. A distinction was drawn between those cases in which the heart, participating in the general impairment of the health, was perhaps equal to the demand made on its functions, and those in which the heart, being impaired by local causes, suffered out of proportion to the system generally. In the latter case, the symptoms were very unequivocal. In addition to the phenomena referred to in the preceding section, the pulse almost always gave indications of the condition of the heart. It was recorded in thirteen cases as being irregular; in fourteen as being weak; in eight slow; in a few as being full, regular, or quick; in none strong. The feeling of fatigue, from slight causes, particularly from ascending heights, the breathlessness, &c.—all progressive, from being so slight as scarcely to attract notice, to the most extreme suffering on exertion—were mentioned. An anxious expression of countenance, mental irritability, and copious sweats from trifling causes were also noticed. The physical signs of the disease, viz., feeble impulse, feeble first sound, extended dulness, perhaps a murmur with the first sound, from disease of the columnæ carneæ, or imperfection in the second sound, were also discussed.

Sixthly. The treatment, which in some cases had been found more successful than might have been supposed, was such as was calculated to improve the condition of the blood. We could not restore lost fibres, but we could render those which remained more effective; we could improve the material to be supplied by the blood, and we could render this fluid a better stimulant. The author referred particularly to the management of the digestive organs, to the use of iron, and the relief of paroxysmal attacks by the use of antispasmodics. Narcotics were not borne; and he mentioned examples of their injurious effects, as also the ill effects of exertion, or of over-exercise. Leeches to the region of the heart, followed by counter-irritation, had, in some instances mentioned, been found very useful in preventing the return of distressing paroxysms of dyspnœa and pain. The author concluded by a quotation from Boerhaave, aptly illustrating the formidable effects of this otherwise inoffensive material when it occurs in a situation to which it does not belong. He apologized for the length of his communication, which was due to the importance of the subject and its numerous relations. The paper was accompanied by tables, containing the abbreviated histories of eighty-three cases of these diseases, and by a number of beautifully executed drawings.

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20. *Digiti Semi-Mortui: their connection with Chlorosis, and with Disease of the Brain and Spinal Cord.*—M. Gillet de Grandmont has addressed a letter to the editor of the *Gazette Médicale* for May 25th, 1850, of which the following is a translation:—

The *Digitus Semi-mortuus*, mentioned by Dr. Marshall Hall,* is never other-

* London Journal of Medicine, April, 1849, vol. i. p. 327.

wise than the symptom, or one of the symptoms, of another disease, which is met with in young people, in adults, or in old persons.

Connection with Chlorosis. It is most commonly one of the symptoms of chlorosis in young girls; I have also observed it in pregnant women who had an anæmic appearance. In young females, sometimes one finger, but most generally several together, are affected. The temperature is decreased, as is easily ascertained by the hand or by the thermometer. The fingers are insensible to pretty strong pressure; a prick with a pin gives no pain, and does not draw blood, or gives a very slight rosy tint. The power of motion remains, but it is embarrassed, and appears to the patient as if mechanical. The appearance of the skin is that of wax; life seems to have deserted the organ. This condition is of varying duration; it is principally observed at rising from bed, and in the course of the morning; it more rarely appears during the day. Dry or alcoholic stimulating frictions, immersion in slightly tepid water, exercising the hand, as with a shuttlecock or skipping-rope, cause it to disappear; but in proportion as the other symptoms of chlorosis disappear under the influence of proper treatment, this singular symptom occurs less and less frequently, and at last disappears. Some of the chlorotic patients, who are subject to this singular affection, have their teeth of a dirty white colour, which indicates a predisposition to spasmodic convulsive affections. The patients who are affected with *digiti semi-mortui* complain, more particularly, among the other symptoms of chlorosis, of pain in the head, of involuntary stretching of the limbs, and sometimes of violent tremors of an hysterical nature. For several years I have very often met with this affection in chlorotic patients. My attention was first directed to it by a young lady of my family, who pointed out to me that "her fingers were dead." She used to strike them, rub them with a brush, or plunge them in very hot water; and it was only after a certain time that the affection disappeared—after continuing for half an hour, or even for more than an hour. This symptom is not constant; it appears at more or less distant intervals, according to the general state of the constitution; but it almost always accompanies, precedes, or follows, the nervous convulsive condition. Several young females have predicted an aggravation of their malady, on observing the phenomenon become more frequent or intense. As I have already said, the same treatment which removes the cause of chlorosis causes this affection to disappear. But when, as is often the case, patients, who are nearly cured, neglect to continue the use of iron, the dead fingers are among the premonitory symptoms of a return of the chlorosis.

Connection with Disease of the Nervous Centres. The *digitus semi-mortuus*, which is met with in adults and in old persons, differs in its characters from that which I have just described. In the latter case, the symptom is preceded by very slight formication, and the cooling is more gradual, but much more persistent; it is sometimes accompanied by a slight flexion of the finger on the palm of the hand, or of the phalanges on each other. In these cases, the finger does not seem so deprived of life as in the other; but the condition continues longer, and when sensibility returns, it seems like the result of a slight internal electrization, or succession of small electric shocks, as is observed in neuralgic affections. At other times, the finger trembles, and becomes slightly painful at the extremity. There is seldom more than one finger affected at first—principally the middle finger. The finger often remains straight, and cannot be easily bent by an effort of the will; it also seems affected with a sense of itching, or slight internal retraction. This affection is the precursor of a malady which proceeds slowly but continuously—an affection of the cerebral and spinal nervous centres. Too much attention cannot be paid to these slight premonitory symptoms; patients often do not observe that terrible diseases are often ushered in by them. I knew a man, once celebrated, who now drags out a painful existence, from not listening to the advice of his physician to cease from work. He considered his own malady as a slight nervous affection; and yet the *digitus semi-mortuus* was the first symptom of a severe disease of the cerebellum and medulla oblongata.—*Lond. Journ. Med.*, July, 1850.

21. *Case of so-called Chylous Urine.* By Henry Bence Jones. (*Proceedings of Royal Med.-Chirurg. Society*, June 11, 1850.)—G——, harness-maker, aged thirty-two, born in Trinidad, went to Scotland when eight years old, and had been in London for twelve years. In the winter of 1848–9, he observed that his urine was at times thick and white. This becoming more continuous, with increasing weakness, he gave up work on the 26th of May, 1849. Dr. Prout, among other things, gave him cod-liver oil, and he was sent to Margate for hot sea-baths. On the 19th of October, he came to me, complaining of severe pain in the loins, and he passed milky water in my room. The minute microscopical details of the appearance of this urine, which contained fat, albumen, fibrin, blood-globules, and alkaline salts of the blood, are given at length. The urine, each time it was passed, was brought daily to me. The chemical details, with an analysis of the blood, will be published in the next volume of the *Philosophical Transactions*. Previous to trying any medicines, careful observations were made on the effect of different diets on the appearance of the fatty matter in the urine. The first series of observations was 71—from Nov. 6 to Nov. 16—when diet was chiefly animal food; the second series was 91—from Nov. 16 to Nov. 30—when it was chiefly vegetable; the third series was 17—from Nov. 30 to Dec. 2—when it was chiefly animal. Hence total—

	Very Chylous.	Chylous.	Slightly Chylous.	Not Chylous.
Animal food, 88 observations,	3	37	40	8
Vegetable food, 91 ditto,	2	20	40	29

Whether the diet was animal or vegetable, the urine was most fatty after dinner; and least fatty, or not at all so, before breakfast. It was more frequently chylous after animal than after vegetable food; and it was oftener free from chyle before breakfast, when the diet was vegetable, than when it consisted more of animal food. The effect of pressure, by means of a belt, was then tried, the diet being chiefly vegetable.

	Very Chylous.	Chylous.	Slightly Chylous.	Not Chylous.
The 4th series, 27 observations, from Dec. 7 to 11,	2	7	6	12
The 5th series, 42 observations, from Dec. 12 to 18,	5	11	12	14
The 6th series, 53 observations, from Dec. 18 to 26,	1	16	17	19

From this, it appears that, during the days when the belt was tight, the urine was less chylous than on the days when the belt was loose. The difference was not very great, but the patient stated that the pressure relieved the pain in the back very much.

Matico was then tried. Seventh series, 211 observations, from Dec. 26 to Jan. 28—7 very chylous, 27 chylous, 69 slightly chylous, and 108 not chylous.

In much stronger doses, eighth series, 89 observations, from Jan. 29 to Feb. 11—1 very chylous, 10 chylous, 28 slightly chylous, 50 not chylous.

By comparing these results with the observations when no medicine was taken, the improvement is very evident.

Gallic acid was then tried—a drachm in the course of the day. Ninth series, from Feb. 13, after breakfast, to Feb. 16, 26 observations: after the 14th, no fatty matter was observed in the urine; from Feb. 16 to 20, 19 observations, no fat or albumen present: from Feb. 20 to March 4, 75 observations, no chylous appearance; from March 4 to 24 he was at work, 98 observations, no chylous appearance; from March 24 to April 6, 72 observations, no chylous appearance. The gallic acid was stopped. From April 6 to June 14, 350 observations. The urine on each occasion was free from chyle or albumen.

The results from Nov. 6 to June 14 are best shown by supposing 1000 observations in each series had been made.

	Urine chylous in different degrees.	Free from Chyle.
1. On animal food,	968 times.	32 times.
2. On vegetable food,	910 "	90 "
3. With pressure, belt loose,	667 "	333 "
4. With pressure, belt tight,	638 "	362 "
5. On matico,	474 "	526 "
6. On gallic acid,	17 "	983 "
7. After gallic acid,	0 "	1000 "

The gallic acid was taken for 53 days: on the third day, the albumen and fat disappeared from the urine, and for 69 days after the medicine was left off, the disease did not reappear, and the patient has resumed his work for 102 days.

A second case is related, in which the urine was once observed to be chylous, in St. George's Hospital in 1840. Three months afterwards, this patient died at Plymouth, and on post-mortem examination no disease of the kidney was perceived.

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22. *Retention of Urine in the Kidney for nine days.* (*Proceedings of Med.-Chirurg. Society.*) By A. W. Gabb, Esq.—Mr. C. T., fifty-five years of age, was suddenly taken with pain in the left side, and vomiting, on the night of the 23d of March.

On the 25th, he had excessive pain and tenderness of the abdomen, and the urine was scanty. The bowels obstinately constipated.

26th.—He passed about an ounce of water at six in the morning.

27th.—Constant desire to make water, but when the catheter was passed into the bladder, no urine was found there.

28th.—Slight delirium; profuse perspiration; return of the sickness.

29th.—Still no urine; sickness less.

30th.—Increase of pain, and return of sickness.

31st.—Less pain and sickness; but no urine.

April 1st.—Catheter again passed, and no urine was found in the bladder. Three pints at least, of darkish-brown fluid, not smelling like urine, but looking like bile and water, were vomited up.

2d.—Sickness and faintness continued.

3d.—Hiccough; great drowsiness, with delirium and sickness.

4th.—Four A. M. Great increase of pain, and suddenly he passed about two pints of clear urine, and a very small stone, which consisted of oxalate of lime, and did not weigh half a grain. (It was shown to the Society, but it was so small that it could hardly be seen.)

After this, he had a rather troublesome attack of diarrhœa, which lasted three days, the consequence, perhaps, of medicine.

On the 12th, he was out and about; and he remained well on the 3d of June. In this case, for nine whole days no water whatever was passed, and for three days previously, a very small quantity of urine was excreted.

Mr. Charles Hawkins regarded the case just detailed as almost unique. The case was manifestly one of retention of urine in the kidneys, or their pelves. The retention was the result of spasm, most probably, as the calculus was too small to impede the flow of urine. Had any other fellow witnessed such a case?

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23. *Case in which the Urachus remained open, and a ring-shaped Calculus, formed on a curved hair in the Bladder, was extracted through the Umbilicus.* By Thomas Paget, Esq.—[In our number for Jan. 1848, p. 313, will be found recorded, by Dr. R. G. Cabell, of Virginia, a case of pervious urachus in an adult. Another example of this rare malformation has recently (June 11) been communicated to the Royal Medical and Chirurgical Society, by Mr. Paget.]

J. C., aged forty years, had suffered for more than a year from frequent and painful micturition. On sounding, a calculus was readily detected. He mentioned that upon attempting to make water, and during violent efforts at work, a portion of the urine sometimes escapes at the navel, which is open, and that, so far as he knows, it has been so from his birth. The catheter introduced into

the bladder through the urethra was easily made to appear at the umbilical opening. Thinking that the stone might be extracted through this aperture, Mr. Paget distended the bladder to the utmost with warm water, the umbilical aperture being tightly plugged, the patient reclining with his head lower than the pelvis, and with the intention of removing the plug, thinking that the calculus might be flushed out with the water; but it then occurred to him to try first the finger at the umbilicus. It readily passed, and when at full length down the unnatural passage, caught within the circle of the calculus sufficiently to enable him to drag it to the side of the bladder and extract it. The nucleus was found to be a hair, and on carefully truncating it, the projecting extremity was seen. The phenomena connected with the opening are thus described: There is a circular deficiency in the linea alba an inch in diameter, its margin being thickened, and of cartilaginous hardness. Through this protrudes a hernia of the size of a goose-egg, which in lieu of ordinary integument is covered by mucous membrane, the surface, however, becoming dry when exposed for any length of time. He never makes water whilst the hernia is out, for, when called to an effort for that purpose, the first act of the bladder is gradually to draw into the abdomen the whole of the protruded substance; its first contractions have no other effect, and it seems not to have the power to force the urethra until that is accomplished. At the latter part of this act, at the instant of the disappearance of the hernia, there occurs a rather forcible jet of urine from the opening; the flow from the urethra also commences at this juncture, and the bladder is emptied in the usual way, the jet from the umbilicus ceasing not to be renewed, except by a violent accelerating action of the expulsor muscles. He can retain a pint of urine. By watching the first contractions of the bladder, it becomes evident that to the thickened margin of the umbilical aperture are attached the muscular fibres of the bladder extended along the urachus. The pouch of the hernia is formed by eversion of the posterior part of the neck only, which is of course attached to the upper half of the aperture, and when protruded presses upon the hard edge of the lower half sufficiently to prevent the escape of urine, except under straining efforts of the abdominal muscles. He wears a girdle, with a thick pad of flannel to catch the urine. With the extraction of the calculus, all the bladder symptoms ceased, and it was thought unadvisable to interfere with the congenital defect.

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24. *Recent Discussion on Acute Articular Rheumatism in the French Academy of Medicine.*—Notwithstanding all that has been written on the subject of rheumatism, it must be confessed that neither its true pathology nor appropriate treatment has been hitherto discovered; or, if discovered, they at least have not been as yet generally accepted. It is obviously of the utmost importance that the true principles of treatment, in a disease so common and so destructive, should become established; and in the present state of our knowledge there seems no prospect of effecting this, except by the application of the numerical method to large numbers of clinical observations carefully recorded. These observations must include all the modes of treatment which have been vaunted as successful, whether they are purely empirical or founded upon *rational* indications. One other mode of solving the difficulty certainly suggests itself, viz. to unravel the complicated pathological questions regarding the nature and causes of rheumatism, and then to apply to therapeutics for the appropriate remedies. But although this would be undoubtedly the more satisfactory mode of procedure, its accomplishment must at present be regarded as impossible, involving as it does the perfection of medical science, and the establishment of an unimpeachable code of therapeutics—the golden age of physic. While, therefore, we are of opinion that no effort should be spared to investigate the pathology of rheumatism, and firmly believe that the knowledge thus acquired will be found invaluable in directing to a rational mode of treatment, we are far from undervaluing the information drawn from the experience of physicians who have treated large numbers of cases upon a fixed plan, even when their practice rests upon what we ourselves consider an incorrect pathology.

A recent discussion on rheumatism, in the Parisian Académie de Médecine, gives us the opportunity of laying before our readers the opinions of some of

the most distinguished practitioners of France. The subject was introduced by M. Martin-Solon, who read a report upon a memoir of M. Dechilly, physician to the Hospital of Vaucouleurs (Meuse), on the treatment of acute rheumatism by the early and repeated application of large flying-blisters to the whole of the joints affected. M. Dechilly's practice is, if the patient be plethoric, to commence with a general blood-letting; if the brain, pericardium, or pleura be implicated, he applies leeches locally; as for the inflamed joints, blister after blister is had recourse to, until the disease is expelled from the system. We find no mention made of the use of internal remedies, except small doses of nitre.

Of the efficacy of this system, M. Martin-Solon reports favourably; but, in most of his own clinical experiments, he seems to have combined the use of large doses of nitrate of potass, or of sulphate of quina, with the vesicant treatment. He finds that, when the disease is not very intense, or confined to a small number of articulations, it may often be subdued in a few days by the simple application of blisters. Thus some of M. Dechilly's cases terminated favourably on the fourth, fifth, or seventh day. But when the affection is more acute and diffused, its duration is generally much protracted, for the rheumatic inflammation passes in succession from joint to joint, notwithstanding the use of the blisters. In one of M. Dechilly's cases, convalescence was not established till after eighteen days of treatment, and the application of thirteen blisters. Neither does this treatment prevent relapses, for one of Dechilly's patients, who was twice largely bled at the arm, twice leeched, and five times blistered, with considerable relief to the articular symptoms, was six days afterwards attacked with rheumatism in the chest (pleuritis?), which yielded to further depletion, but was succeeded by rheumatism in the muscles of the left arm. M. Martin-Solon considered the practice of repeated blistering especially applicable to cases accompanied with constitutional or morbid exhaustion, or with symptoms referable to the digestive organs forbidding the use of contra-stimulant internal remedies. He had himself obtained incontestable advantage from the use of sulphate of quina, given to the extent of one and a half to three grammes in the course of twenty-four hours. But the practice which he generally followed was that recommended by Brocklesbey in 1764, viz., the administration of nitrate of potass in large dose. He prescribed from 24 to 36 grammes (6 to 9 drachms) in three litres (5 lbs.) of lemonade, or of some agreeable infusion with sugar, to be taken in the course of the day. It was necessary that the nitre should be given in a large quantity of fluid in order to avoid its irritating properties. In a few cases, complicated with endocarditis, he had likewise ordered blood-letting and leeches; but, in general, he trusted to the nitre alone.

M. Rochoux regarded rheumatism as an inflammation; nay, as the very type of inflammations.

M. Bouillaud was far from allowing, like M. Martin-Solon, that nitre, quina, antiphlogistics, and blisters might be had recourse to indifferently. If the disease were confined to the joints, its grave character would be much diminished; but it was well known that it did not rest there; and that too frequently organic diseases of the heart arose when the patient was regarded as cured. Woe to the patient in whose case rheumatic fever lasted more than fifteen days? Even if the articular symptoms have yielded, he would almost certainly be sooner or later the victim of incurable organic disease. M. B. had no confidence in modes of treatment directed against the pains of the joints; it was the visceral, and especially the cardiac, complications which should guide the physician's practice. He then proceeded to describe the success which he believes he has obtained by venesection practiced "coup sur coup." In more than 600 cases, this treatment had never disappointed him, removing the most intense rheumatism within a week, and surely preventing the lesions of the heart. But to insure its efficacy, it was essential that this treatment should commence on the first day of the disease if possible, or at latest before the termination of the first week. He denied the specific nature of the rheumatic process; believing it to be a disease of the system, "*une maladie générale;*" an inflammation, just

as pneumonia and pleurisy were inflammations, and no more dependent upon a specific virus than these two diseases were.

M. J. Guerin made some remarks upon the effect of subcutaneous puncture of the articulations in rheumatism. He could not account for the relief which he had observed to follow this practice. It could not act antiphlogistically, for only a drop or two of blood escaped.

M. Gerdy believed that rheumatism differed from ordinary inflammation in the frequent and sudden alterations of its site; in its want of periodicity (for all true inflammations had periods during which they augmented in intensity, or were stationary); and, finally, in the lesions which were observed in fatal cases.

M. Grisolle argued against the inflammatory nature of rheumatism, because the fever was often observed to continue when the articular pains were gone, and when yet there was no evidence of internal mischief; because rheumatism never terminated in gangrene; because it never terminated in suppuration. The cases in which this latter termination was supposed to have occurred, he regarded as examples of purulent infection, with pains in the joints, and subsequent effusion of pus. Besides, if rheumatism were inflammatory, why, when seated in the joints, did it not follow the same course as local inflammations, which sometimes manifested themselves during an attack of rheumatism? Why should the pleurisies and pericardites, in such circumstances, follow one course, while the pretended arthritis followed another?

He denied the efficacy of the practice of venesection, "coup sur coup." Sydenham, who was once an advocate for profuse bleeding, towards the end of his career condemned the practice as useless. At Montpellier, the system once was to bleed thrice a-day; but there, too, it was now abandoned. M. Legroux, who had employed the so-called "nouvelle formule," and had acquired his knowledge of it from his master, M. Bouillaud, had recently publicly declared that it only served to prolong the convalescence, to favour complications, and to induce chloro-anemia.

M. Piorry, after alluding to some original experiments of his own upon the amount of blood which can be abstracted without inducing death, and after claiming for himself the priority of the application of the "nouvelle formule des saignées suffisantes," proceeded to develop his own views regarding the pathology of rheumatism. Under the term acute articular rheumatism had been united conditions the most dissimilar, both in their nature and in the mode of treatment which they require. He instanced the fever, accompanied with acute articular pain, which is sometimes observed after delivery, and what is known in this country under the name of gonorrheal rheumatism, as differing essentially from the disease under discussion. In true rheumatism, there were two elements under which the symptoms might be ranged. One of these was the state of the blood, whose serum was surcharged with fibrin; this condition he denominated "hémite." The other element was the "arthrite," a most decided inflammation, often affecting several joints together, or in succession, and very rarely terminating in suppuration.

The following was the treatment which he considered applicable to "hémit-arthrite." In the early stage of the disease, while the morbid condition of the blood was still well marked, the physical examination of the heart, arteries, veins, capillary system, liver, lungs, &c., demonstrated the presence of an excessive quantity of blood; and, at this period, it was advantageous to bleed abundantly, once, twice, or even thrice a-day. The amount and frequency of the venesection should be directed by the physical signs referable to the viscera, and by the properties of the blood drawn. It was rarely necessary to bleed after the third day. Sometimes the disease was thus subdued within twenty-four hours. In chronic cases, or in those in which the symptoms had already existed for several days, cupping and leeching might be substituted for general blood-letting. In cases of relapse, the treatment of the acute stage was to be had recourse to. In all cases, in order to combat the "hémite," and prevent endocarditis, large quantities of diluent drinks should be given, emollient applications should be made to the joints, and great advantage would be derived by keeping them *in an elevated position.* He had never seen good effects from

the use of quina, except when the symptoms recurred with periodicity, when the spleen was implicated, or when, after the acute symptoms had abated, neuralgic pains, connected with the articular lesions, were observed. Tartarized antimony might be useful from its property of producing serous discharges, but its good effects were more equivocal than those of blood-letting, and its use was attended with more danger. Opium, and other narcotics, he condemned as remedies empirically directed against the mere symptom of pain, whereas this symptom was the result of the pathological conditions which ought to be the subject of treatment. He had never obtained any species of success from the employment of narcotics, of nitre, or of any of the vaunted specifics against rheumatism. Blisters were most useful when the disease continued to cling to certain joints after the diseased condition of the blood (*hémite*) had disappeared. "In short," said M. Piorry, in concluding, "acute articular rheumatism is not a simple disease always demanding the same treatment. It is a compound of different *organopathic* elements, which are far from identical in degree in every case, and which each present particular therapeutical indications. According to my doctrine, rheumatism is not to be combatted by a formula indicated *à priori*, but by directing against the different lesions which present themselves, means of cure adapted to and regulated by the state of the organs of individuals who are the subjects of treatment."

M. Parchappe argued that acute articular rheumatism is a disease of the whole system (une maladie générale). He maintained that all such diseases have determinate periods of development and duration, which it was not in the power of the physician to abridge. He consequently deprecated as futile any attempt to *jugulate* rheumatism, and preferred a modified expectant treatment, including antiphlogistic remedies adapted to each indication which might present itself—remedies to relieve symptoms, to combat complications, to prevent the rheumatism from passing into the chronic state, and *to lessen the duration of the disease.*

[How to lessen the duration of a disease which has a *determinate* duration, we are not informed.]

Those who regarded rheumatism as a local inflammation, appealed, in support of their opinion, to the nature of the local symptoms; to the concomitant fever—an inflammatory synocha; to the state of the blood, which always shows the inflammatory buffy coat; to the inflammations with which the disease was often complicated; and, finally, to the effect of antiphlogistic treatment.

He repudiated the axiom—*naturam morborum ostendit curatio.* To support a theory by the alleged good effects of a mode of treatment suggested by the theory, was to reason in a circle. The inflammatory nature of the articular lesions, and of the complications, did not necessarily prove that the disease was an inflammation. There were diseases non-inflammatory in their nature, which included among their local manifestations inflammations proceeding even to suppuration. He instanced variola. As to the state of the blood, he admitted that the great preponderance of fibrin might be regarded as an indication of the inflammatory diathesis. He pointed out a fallacy in the ordinary mode of calculating the amount of fibrin in analysis of the blood. The fibrin is always directly estimated, being obtained by agitating or stirring the freshly-drawn blood. But as a certain quantity of plasma containing fibrin is included within the envelops of the blood-corpuscles, it is plain that a corresponding amount of fibrin must elude the detection of the analyst. The proportion of fibrin *obtained* must consequently be modified by the variable amount of the blood-corpuscles, being largest when the corpuscles are present in smallest number.

M. Bouchardat said that in rheumatism there were morbid elements which might exist simultaneously or separately. The inflammatory element was often present, as was shown by the buffy coat of the blood. This product, according to M. B., consisted of three principles—1st, a matter identical with pure albumen, and capable of dissolving in water faintly acidulated, which he termed *albuminose;* 2d, a substance insoluble in acidulated water, presenting a great analogy with the characteristic element of epidermis and epidermic productions; 3d, a matter which gelatinizes when boiled in water;—it was this matter which characterized the inflammatory buffy coat, and which was *not* present in fibrin.

He detailed a series of experiments, which he thought proved, beyond all question, the existence of this gelatinous principle in the blood of acute articular rheumatism. But besides the inflammatory element, there was a rheumatismal element which he could not better define than as *a particular state of certain organs.*

Adopting the result of observation, that acute rheumatism, like pneumonia, &c., could be produced by exposure to cold, he proceeded to inquire what could be the effect produced upon the system by such exposure? The secretions, including those of the skin, might be immediately suppressed or altered. The characteristic elements of the cutaneous secretions might either be abnormally developed in other tissues or membranes, or might simply cease to be produced. All the apparatus continually in operation in the living body, furnishing secretions, either acid or alkaline, might be regarded as an assemblage of batteries, whose poles might be reversed by the influence of a perturbing cause, or whose regular action might cease for a time. Thus, membranes generally lubricated with alkaline fluids might be brought in contact with fluids faintly acid, whose degree of acidity did not exceed that of the perspiration or of muscular tissue; and this modification of the secretions, trifling as it might seem, was yet sufficient, under the influence of the temperature of the body, to effect important chemical changes on the tissues containing gelatine. He had, in fact, shown that membranes might even be dissolved by immersing them in water at the temperature of +38 Cent. (100 Fahr.), containing less acid than the perspiration. According to individual constitutions, such perversion of secretion might be often produced in the same subject, either in the membranes of the articulations, or in the respiratory apparatus, under the influence of cold; and the result would be, according to the parts affected, acute rheumatism or pleuro-pneumonia.

In reviewing the modes of treatment, M. B. admitted the propriety of blood-letting, but expressed some doubts as to the assumed harmless nature of copious venesections practiced at short intervals, and as to their utility when opposed to the grave complications met with in certain cases.

No treatment was better than that by sulphate of quina—yet in small dose it was useless, and in excessive dose it was a poison. The quantity given should be such as to produce some temporary disturbance in the system, but beyond this limit it should not be pushed. One to two grammes (15 grs. to ʒss.) in twenty-four hours, and in divided dose, was sufficient for an adult. This treatment abridged the duration, and diminished the intensity of the disease: it was not yet shown to be efficacious in preventing complications. Nitrate of potass was a valuable remedy, and might even be given to the extent of from 40 to 60 grammes (617 to 926 grs.) in twenty-four hours; but it must be given in a large quantity of water. The dose must be administered regularly at stated intervals throughout the whole twenty-four hours, and must not be persisted with unless the kidneys act well; for, according to the experiments of Orfila and M. B., the presence of 20 or 30 grammes (309 to 463 grs.) in the blood may occasion death.

Digitalis, squill, and colchicum, he did not consider sufficiently trustworthy or manageable. Of tartarized antimony in contra-stimulant doses, he had no better opinion. He allowed that opiates were, in certain cases, of service, not only in relieving pain, but even in favourably influencing the progress of the disease. Blisters were theoretically indicated at the very commencement of the disease, and he recommended that their dimensions and activity should be proportionate to the violence and extent of the disease under treatment.

A discussion followed, between M. Bouillaud and M. Grisolle, regarding the possibility of cutting short the disease by repeated blood-letting. From this discussion, and from the comments of the different journals, particularly of the "Gazette des Hôpitaux," it would appear that M. Bouillaud stands almost alone as the advocate of his "nouvelle formule," and that he labours under some illusion as to the duration of the disease in the cases to which he continues to apply it. M. Michel Lévy next proceeded to analyze the evidence in favour of M. Dechilly's proposal, which he proved to be defective, and moved that the Académie should request the author to *pursue and complete* his researches on the treatment of acute articular rheumatism by the exclusive use of blisters.

This motion was adopted by the Académie.

[In the course of the above discussion, we find no mention made of certain modes of treatment which, in this country, have numerous advocates. We allude to the employment of sudorifics, of calomel and opium, and of aconite. We desire to express no opinion upon the several merits of these modes of practice; but surely they were at least worthy of notice in a discussion in which so many contradictory views were expressed upon the appropriate treatment of this very common and too destructive disease. Can it be that the accomplished physicians, who took part in the debate, are not well informed as to the practice pursued in their own day in Britain?]—*Monthly Journal of Med.*, July, 1850.

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25. *Phosphate of Ammonia, and its employment in Gout and Rheumatism.*—The attention of the profession was first called to the value of the phosphate of ammonia as a remedy for gout and rheumatism, by Dr. Thos. H. Buckler, of Baltimore, in an article in this Journal (see number for Jan. 1846, p. 108). A paper on the subject has recently (April 27th, 1850) been read before the Westminster Medical Society by Dr. S. Edwards, in which the author remarked that no mention is made of the therapeutical uses of this salt in any of the standard works of materia medica, and subjoined the following description of it, being an epitome of the researches of Mitscherlich upon it:—

Phosphate of Ammonia.—The mutual action of anhydrous phosphoric acid and ammonia has not been studied: they probably give rise to *amide*. The neutral phosphate of ammonia may be obtained pure by saturating phosphoric acid with ammonia, or carbonate of ammonia, and carefully evaporating, so as to avoid the production of an acid salt. It may also be formed by adding carbonate of ammonia to the acid phosphate of lime, obtained from bone earth, till no further effervescence or precipitate of phosphate of lime follows filtering, and evaporating; taking care, however, to leave slight excess of ammonia. The solution, left to itself, deposits the salt.

When taken internally, in the ordinary dose of ten grains, it produces no very sensible physiological effects; it occasions, sometimes, a slight feeling of nausea, accompanied with heat of the epigastrium, immediately after which, if the surface be kept warm, it acts as a stimulating diaphoretic. It is also a diuretic. When used in cases where *uric* acid exists in large quantity in the system, it shortly produces a large deposit of urates in the urine. The author then made some few remarks as to the proximate causes of gout and rheumatism, considering them in the light of blood diseases, arising from a morbific matter circulating in the blood, originally formed in the primary and secondary assimilating processes, thereby occasioning a disturbance of longer or shorter duration, in the nutrition of parts to which it is attracted. He considered there was sufficient analogy between the two affections to cause him to view them as mere varieties of the same disease. Reference was made to the opinions of Barthez and Chomel, who considered it almost futile to attempt a diagnosis beyond marking the parts affected in each, and that this was objectionable, as referred to by Dr. Todd, who asserts, "Gout shows, at first, a decided predilection for the small joints—those of the hand and foot—but in time *all* the articulations are obnoxious to it, and not only they, but also tendons, ligaments, bursæ, and synovial sheaths." Dr. Edwards referred to the case of an old lady who had been troubled with gout for some years. The metatarso-phalangeal articulations of the great toes frequently threw out chalk-stones, and a fluid containing urate of soda; when this subsides, she is troubled with chronic rheumatism of the whole body, but on the gout and secretion returning, the rheumatic pains entirely leave her, showing such a connection between the urate of soda and the rheumatism as to warrant the belief of their being cause and effect. Dr. Edwards then went on to state that, from a number of chemical and microscopical experiments, he had arrived at the conclusion that these diseases had an excess of lithic acid for their essential cause; that the elements of this acid and its combinations are supplied by the nitrogenized elements of the food, as well as by the changing tissues of the body, a sufficient reason why the disease should attack the young and badly nourished, as well as the older, more plethoric, and they who live high. Dr. Edwards confirmed the fact that

in gout uric acid existed in the blood, and in several cases he had obtained rhomboids of uric acid from the same fluid in rheumatism in much larger proportions than in health, but not to the same extent as in gout. This was accounted for from the circumstance of the lithic acid being partially thrown off by the skin and kidneys in the one, whilst it was retained in the system in the other. Dr. Edwards had experimented in fifteen cases, and made reference to Simon, and also to Becquerel's cases in proof. The urate of soda had been considered to be a secretion peculiar to gout. Dr. Edwards referred to Dr. Macleod's statement of the articular cartilages in capsular rheumatism, being covered with it occasionally; also to a case of rheumatic gout, given by Dr. Golding Bird, where an eczematous eruption of the legs was frosted over with microscopic crystals of it; also, in a case which he had himself observed, where a patient had died of heart affection, deposits of urate of soda existed in the valves of the heart. This patient had had rheumatic fever, but not gout. Reference was made to the connection between rheumatism and granular disease of the kidneys, and some other renal affections, in which the relative proportions of the ingredients in the urine are diminished, and, according to Rayer, are found to exist in the blood and serous effusions; and, in the examination of the urine, Prout and Christison state, according to their observations, the lithates are most strikingly deficient. The author considered himself justified in asserting that in these two diseases there was a large and undue proportion of lithic acid or its compounds in the system, and asked, may not this deposition, then, occasion such an extent of acrimony in the fluids of the body as to irritate, and excite to a morbid action, the lymphatics and minute terminations of the arteries in the several parts of the body, and not improbably of the lining membrane of the larger arteries, becoming, in fact, a source of irritation wherever deposited, more especially in parts such as the joints and sheaths of the ligaments and tendons, which, being inextensible, would sooner probably become affected by such distempered excitability? Dr. Edwards then spoke of the physiology of the beneficial action of the phosphate of ammonia in these affections. On being taken into the system, and coming in contact with the uric acid or urate of soda, it became decomposed, a phosphate of soda and urate of ammonia would be produced—thus exchanging a very insoluble for very soluble salts; but this was not all, for Baron Liebig had shown that the phosphate of soda has a remarkable effect upon uric acid, rendering it soluble with facility in water. By these means, therefore, the free and combined uric acid existing in the system in these diseases will be dissolved and rendered capable of easy elimination by the kidneys. Dr. Edwards then remarked that he had used the phosphate of ammonia in almost every variety of gout and rheumatism, and almost always with the most beneficial effects. He had frequently warded off attacks of gout by its early employment. Before using it, he generally prefaced it by a purgative of calomel and colocynth, or some other, and in the acute articular rheumatism adopted the usual local and general antiphlogistic treatment. Under its use, the tendency to attack fresh joints had diminished, and the chronic form, so frequently left behind from the acute, generally obviated, and when existing usually yielded in a few days. It had been found extremely beneficial in some of those cases of a local character which bear a resemblance to neuralgic disease. Dr. Edwards also drew attention to an important fact in connection with the use of this salt in *acute rheumatism*. He had employed it in fifteen cases, and in no one had *heart* symptoms accompanied it. When it is remembered that heart complication occurs in about one-fifth of the cases of rheumatic fever, the subject deserves attention. Dr. Edwards had found it of great use in subduing the swelling which so frequently occurs subsequently to gout, and spoke highly of its powers in preventing the formation of chalk-stones, as well as arresting their increase when forming. He also described its solvent power as great in uric acid gravel, and asked, might it not be available in uric acid calculi? He had given it a comparative trial with phosphate of soda and benzoic acid, and found it far more useful in its effects. In some few cases in gout, he had used a lotion of it, with good and soothing effects, especially where a concretion of urate of soda appeared to be forming.

[We do not find in the communication of Dr. Edwards any allusion to the paper of Dr. Buckler. This either evinces an imperfect sense of justice or great ignorance. The former if he was acquainted with the paper of our countrymen; the latter if he was ignorant of it, as it has been noticed in all the English Journals.]

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26. *Nux Vomica as a Remedy in Hay Fever.*—G. F. Gream, Esq., has used, at the suggestion of Mr. Hammerston, of St. George's Hospital, the nux vomica, with the best effects, in the cure of hay fever. He uses the tincture of nux vomica of the Dublin Pharmacopœia, in doses of ten drops gradually increased to twenty three times a-day.

At the same time, he applies to the lining membrane of the nostrils, as high up as possible, an ointment composed of one drachm and a half of Goulard's extract, two ounces of spermaceti cerate, and a few drops of oil of bergamot, or of roses.—*Lancet*, June 8, 1850.

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27. *On very Minute Doses of Tartar Emetic in Phthisis and Asthma.*—In vol. xxxi. of the *Bulletin de Thérapeutique*, M. Bernardeau gave an account of the great benefit he has seen derived from the administration of minute doses of tartar emetic in the hectic of phthisis. Since that period, he has used it in other stages of tuberculization, and in several cases of asthma, with excellent effects. He gives from three to six pills in the twenty-four hours, each containing one twenty-fifth of a grain. By their use, the cough, dyspnœa, and inordinate action of the heart become calmed, and in fact all the good effects of morphia, without its inconveniences, seem to be produced.—*Brit. and For. Med.-Chirurg. Rev.*, from *Bull. de Thérap.*, vol. xxxviii. p. 311.

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28. *Habitual Use of Opium.*—The number of the *Monthly Journal of Medical Science* for June, 1850, contains an abstract of a highly important paper by Mr. R. Little, of Singapore, in which is given a very interesting account of opium-smoking in China, the mode of preparing the opium for that purpose, and the effects of the practice on health and longevity. From this paper, we make the following extract:—

"A difference of opinion prevails as to the ultimate effect on the health, when opium is used in this way so often as to constitute a habit. It was long universally thought to undermine health and abridge life. But in recent times doubts have been raised on this head. Dr Burnes was led to conclude, from observation when at the court of Lahore, in the time of Runjeet Singh, that the habit of eating opium does not tend to shorten life. More lately, Dr. Macpherson came to the same conclusion, from what he saw of opium-smoking among the Chinese at Canton. And in Europe, since the inquiries on the occasion of the jury trial at Edinburgh in 1832 connected with the insurances of the late Earl of Mar, it has been thought by not a few persons of weight that the habit of eating opium, or drinking laudanum, may be by no means so injurious to health and longevity as its immediate effects on digestion and the nervous system would lead one to prognosticate. It may be true, as these skeptics have stated, that some people, long abandoned to the vice, have lived to a good old age, miserable from its immediate effects, yet not unhealthy. But the experience of most travellers, who have witnessed its effects on a large scale in the East, is directly the reverse; and although this proposition may be in some measure liable to the objection that it is the statement of casual observers merely, it is amply borne out by the results of careful and extensive inquiries at Singapore. These inquiries were made by personally examining the owners of opium shops, the smokers who frequented them, the prisoners in the house of correction, and the paupers of a poor-house supported by voluntary contributions. The following information is the result.

"As the habit grows upon its unhappy victim, the first evils experienced are disturbed sleep, watchfulness, giddiness, sometimes headache, capricious appetite, a white tongue, frequently costiveness, indescribable oppression in the chest, and haziness of the eyes. Afterwards, a copious secretion of mucus takes place from the eyes, and often from the nose also; digestion becomes much impaired,

and micturition difficult; a mucous discharge begins to flow from the organs of generation; the sexual organs, at first preternaturally excitable, gradually lose their tone; the body wastes, the muscles lose their torosity, and the bones are affected with dull gnawing pains for some hours in the morning. By and by, the figure stoops, and a peculiar shuffling gait is acquired, by which alone a practiced eye may recognize an old opium debauchee. At the same time, the eyebrow droops, the lower eyelid becomes dark, the eye itself seems to sink and grow dim, and the whole expression is that of premature old age. In both sexes, the procreative power is greatly lessened, and in those women who nevertheless do bear children, the secretion of milk is defective. The influence of the habit on the generative functions is indeed so decided that were it not for fresh arrivals from China and other parts of the East, the population of Singapore would very soon be seriously diminished.

"Still there may be no structural derangement. At length, however, food and drink are vomited almost constantly when the system is not under the primary action of a dose; there is incessant gnawing pain in the stomach when its effect is off; diarrhœa comes on, relieved only by fresh indulgence, and dysentery sometimes supervenes; a turbid mucous urine is discharged with unusual frequency, the result sometimes of renal disease; and, among affections of the kidneys, Bright's disease is not uncommon. In others, difficulty of breathing is a prominent symptom, increasing gradually to an urgent sense of suffocation, and depending generally on œdema of the lungs, or effusion into the pleural sac. In others, irregularity and feebleness of the pulse, with pain in the cardiac region, indicate the supervention of organic disease, or severe functional disturbance of the heart. Some suffer excessively from boils and carbuncles, from the latter of which few confirmed opium-smokers recover. Foul, indolent ulcers are extremely common among the poor; strumous affections of all kinds are apt to be developed, and the constitution is prone to succumb without resistance under all violent diseases.

"The influence of opium-smoking on the morals of its victims is not inferior to its impression on the bodily health. Indolence and inaction, neglect of business or work, and consequent poverty, though the most obvious, are not the worst results. Deeper depravity often follows in the train of these evils. Wife and children are disregarded; frequently, however, not before they are inoculated by example or positive encouragement with the same unhappy vice. Misery leads at last to crime, and crime to deeper misery. Not unfrequently theft supplies the only resources for persevering in the fatal pleasure. Of forty Chinese prisoners in the Singapore House of Correction, no fewer than thirty-five were opium-smokers. Seventeen of them, who had earned on an average eighteen shillings of wages monthly, spent nearly twenty-four shillings upon opium, the difference being necessarily made up by the gains of stealing. One of them, who earned twelve, but smoked twenty-four shillings, on being asked how this was—how it was possible? aptly replied, 'What am I here for?' The sedative action of the drug is well exemplified in the crimes for which these people were imprisoned. In Europe, where the habit of intoxication with ardent spirits adds fearfully to the contents of prisons, it is well known that crimes are committed chiefly during the excitement caused by the poison, and are therefore generally directed against the person. But the opium-smoker knows no such state of existence. His intoxication is quiescent. It is not till this stage passes off that he begins to think of crime; his object is to supply the means for the next debauch; and accordingly offences against property constitute a large proportion of the causes of imprisonment in this class of the population of Singapore. Of twenty-two opium-smokers in the prisons of Singapore and Penang, nineteen were condemned for offences against property and only three for offences against the person. Opium-smokers constitute 80 per cent. of those confined in the House of Correction at Singapore for vagrancy and police misdemeanours, but only 40, or at most 50, per cent. of those in prison for larceny, highway robbery, burglary, and other similar offences requiring boldness and enterprise.

"Unfortunately, the effects produced on the health by abandoning the habit of smoking opium, after it has become deeply rooted, are even worse than the

perseverance in it. A gloomy despondency is added to the usual symptoms of the ordinary stage of depression; a state ensues somewhat like a low state of delirium tremens, attended with extreme prostration of strength, and often with exhausting diarrhœa and vomiting; all pre-existing diseases are aggravated, dropsy frequently ensues, and death may soon result, most generally by effusion into the great cavities, and general anasarca. When these effects have begun to show themselves under a compulsory cessation of the habit, the most marked improvement of health is produced by resuming it. Hence no one who has once fairly given himself up to this unhappy vice will surrender it voluntarily. The result of the examination of several hundred opium-smokers on this point was, that, by their own confession, the extent of their indulgence was limited only by their means, and the spontaneous abandonment of it impossible. The writer of an essay on the opium trade says, 'There is no slavery on earth to name with the bondage into which opium casts its victims; there is scarcely one known instance of escape from its toils, when once they have fairly enveloped a man.' Mr. Marsden also says it is almost impossible to shake off the habit. And Sir Stamford Raffles gives it as his opinion 'that the use of opium is all the more dangerous, because a person once addicted to it can never leave it off.'

"Nevertheless, under medical advice, with due caution on the part of the physician, and some exercise of resolution on the part of the patient, the habit may sometimes be effectually and safely broken. Its abandonment, either suddenly or without due precaution, is attended with danger. But that recovery is practicable and safe under a methodical treatment, the following case will sufficiently show: A Malwah opium merchant and opium-eater had often endeavoured to abandon the habit, but always in vain. On one occasion, when wrecked on the coast of Cochin-China, his strength of mind enabled him to observe his religious dietetic principles, so as to live for weeks on dry rice and water, because he could not cook food according to his creed. But when he wished to give up his opium, this man of iron nerve was like a child for feebleness of purpose; he could not encounter the sufferings of the stage of probation. At length, on arriving at Singapore, and learning that the habit could be broken by means of a wonderful medicine, he resolved to subject himself to treatment, but on condition that he was to undergo neither the rending of the bones nor gnawing at the stomach, which he experienced in all previous attempts. At this time, he ate twenty grains of opium morning and evening. He was directed to use twice a-day a mixture containing a drachm of Battley's solution, a drachm of laudanum, and two drachms of tincture of gentian, and to wash down each dose with a mixture containing essence of ginger and two drachms of some aromatic stimulating tincture. He was likewise enjoined to take gentle walking exercise morning and evening. He felt no inconvenience, although his daily allowance was thus reduced at once from forty to about twenty-four grains; on the contrary, he felt stronger and more comfortable. The quantity of the preparations of opium was then gradually reduced, while that of the bitter and aromatic tinctures was increased; and after the opium was thus all withdrawn, the tinctures were gradually exchanged for decoctions of black pepper, ginger, and quassia. In this way, he recovered entirely without any suffering; and twelve months afterwards he continued scrupulously to abstain from the drug, and enjoyed the best of health.

"From this and other parallel cases, there is no reason to doubt that the habit may be broken off with safety by a gradual progressive reduction of the dose of opium, and the substitution of strong bitters and hot aromatics for a time, especially if with this change be combined free air, regular and increasing exercise, and a good nutritive food. But it is impossible to give up the habit at once with safety."

Prof. CHRISTISON, in a supplement to this paper, has added some interesting information to that furnished by Mr. Little.

Prof. C. says: "Important as the inquiries of Mr. Little unquestionably are, they do not absolutely settle the question of the influence produced on health and longevity by the habitual use of opium, as indulged in by inhabit-

ants of this country. The subject still requires more extended European observation.

"I am sorry to add, after this introduction, that my opportunities of adding to existing information have not been so considerable as might be desired. But I have met with one case which would undoubtedly have proved fatal in early life, had not the habit been broken; and which, on that as well as on other grounds, well deserves to be made known: and, having had some little experience in the treatment of the habit with a view to its cure, I have thought the particulars may prove both useful to the profession and encouraging to the unhappy victims of the vice; more especially as my observation does not correspond with that of Mr. Little, as to the great danger arising from its abandonment.

"The first case was that of a seaman, of the age of twenty-eight, who had contracted the habit while in the mercantile service in the Eastern seas, in consequence of being obliged to use opium for a protracted dysentery. He had continued it for two years. His daily allowance was a drachm of solid opium, which he took in divided doses in the day-time. Immediately on his return from a voyage to the islands of the East Indian seas, he applied for admission into the Edinburgh Infirmary, to be cured of the habit. He had a sallow yellowish complexion; which, however, is well known to be occasioned by the climate merely of the parts he usually visited. Farther than this, nothing remarkable could be observed in him; and he assured me that he could follow his occupation well enough, but that it cost him a great effort to do so, and that his misery was great on awaking in the morning, until he commenced his doses. The bowels were little liable to constipation; but he had been long free of the remains of his dysentery; and he had not the affection of the eyes and nose, described by Mr. Little to be generally observed among the smokers of opium at Singapore. His constitution being obviously little impaired as yet by the habit, I contented myself with simply withdrawing his allowance of opium at once and entirely, and with substituting a draught, with two drachms of tincture of hyoscyamus, in the evening, as a soporific. Great prostration of strength ensued; he either lay in bed motionless, or wandered about the ward with a languid gait and woe-begone countenance; he was affected with incessant loathing of food, nausea, and indescribable uneasiness in the stomach, but not with pain there, or in his limbs; and he slept none, notwithstanding the hyoscyamus. This state of matters continued for three days and nights, during which no change of treatment was made, except that a little brandy was given to assuage the uneasy feeling in the stomach, and that an attempt was made, but in vain, to obtain sleep by increasing the hyoscyamus to three drachms. On the fourth night he took no hyoscyamus; nature asserted her sway, and he slept soundly; in the morning, he felt revived, took some food with relish, and had no uneasiness afterwards. From that moment, he quickly recovered strength and spirits, under no other treatment than a generous diet; and, in the course of a fortnight after his admission, he left the hospital quite well. This instance may perhaps serve as an example of what may be expected when the habit, as seems often to happen under the counteracting effects of an active occupation, has not materially undermined the constitution.

"Subsequently, I was consulted in a very melancholy case, which, although its result is not known to me, is worthy of mention, on account of its remarkable circumstances. A medical gentleman in England had long been dissatisfied with his wife, on account of her neglect and indifference, so that at last a separation was contemplated. But he continued from time to time to put off the evil day. At last, he was one evening hurriedly sent for home, to find her in a state of deep sopor, and in circumstances which left no doubt that a large dose of laudanum had been swallowed. By the application of the usual remedies, she was with some difficulty roused, and eventually recovered. To the consternation of her husband, however, he then for the first time discovered that she had been long in the habit of drinking laudanum to excess, and that on this occasion she had merely taken, by some accident, a more potent dose than usual. He came to Edinburgh to consult me what was to be done, as she expressed a willingness to be cured of her fearful habit; and more particularly he was anx-

ious to know whether it might with safety be abandoned abruptly; because he despaired of accomplishing a gradual reform. The narration of the previous case determined him to adopt a similar treatment. I have never heard the result. Should these pages meet his eye, he may perhaps be induced to communicate it still.

"Some years ago, I had for a patient a gentleman who had cured himself successfully of the habit, which he had contracted while engaged in a literary undertaking of some duration, and requiring protracted fatigue of the mind. I do not know the particulars, however; but he had recovered from the vice without danger; and, when I saw him, several years had elapsed without inconvenience or relapse.

"The last case I have to mention is the most instructive that has yet occurred to me. An English gentleman, twenty-five years of age, whose pursuits rendered him somewhat migratory, consulted me, while in Edinburgh early in the spring of 1848, on account of ordinary stomach complaints. The pulse being very frequent, his body emaciated, his complexion anæmic, and his expression of countenance haggard, I suspected something more than stomach complaints in one of his age. My suspicions naturally turned to phthisis; and although they were not confirmed by a stethoscopic examination of the chest, I advised him to repair at once to his friends in the south of England, whom he intended to visit in no long time at any rate, and there to put himself under medical advice. After this, I heard no more of him till near the end of last August (1849), when I was requested by Dr. Ebenezer Skae to see him here, on account of a return of his stomach complaints, in a very urgent form. In the spring of that year, they had assailed him with increased severity. During the summer, they got progressively worse, though with occasional brief intermissions. Latterly, chronic organic disease was suspected; and, after various remedies had been used without any permanent advantage, a gentle course of mercury was recommended by one of his physicians, and had been commenced before I saw him. I found him much emaciated, and extremely prostrate. He vomited most things he took; but for three weeks had taken scarcely any food. The pulse was frequent and feeble; the tongue whitish and clammy; the bowels rather confined; the skin cool; the urine scanty, natural in colour, not coagulable by heat or nitric acid. The abdomen was very lank; and in the epigastric and both hypochondriac regions there was no fulness, firmness, tenderness, or dulness on percussion. The countenance was bloodless and sallow; the eyes clear, large, ring-eyed; the expression anxious and dreamy. There was no unusual secretion from the eyelids or nostrils. Suspecting organic disease, I recommended perseverance with mercury, and for the vomiting medicinal naphtha and hydrocyanic acid. In three days more, as he had become worse, I was sent for again; but, on my arrival, I was surprised to find him much more comfortable since the morning, and this without naphtha, hydrocyanic acid, or apparently any other remedy. Meanwhile, however, Dr. Skae had learned that a suspicion was entertained that he took opium in excess. I therefore undertook to tell him that the symptoms resembled the after-effects of opium in those accustomed to use it, and that he must put his confidence, without any reserve, in his medical attendants. He seemed a little surprised at the announcement; but all he would admit was, that he did acquire the habit three years before, in consequence of using laudanum too heedlessly for toothache; and that after nine months' indulgence, he had broken the habit, though with great difficulty, and with six weeks of constant suffering. This did not satisfy us, however; and, on finding out his druggist, and putting the question, it was discovered that for two years he had been supplied with large quantities of opium in various forms; that at one time his daily allowance was three ounces of laudanum; that latterly he had purchased at the rate of two drachms of hydrochlorate of morphia —that is, about two ounces of opium—every week; and that he had got that quantity only a few days before. The druggist having been bound down by him to secrecy, it was necessary to extort a confession, if possible, from the patient, without making use of this information. But it was all in vain. He persevered in denying that he used any preparation of opium; and nevertheless he had just contrived to obtain two additional drachms of hydrochlorate of

morphia. He was now removed to airy lodgings, two miles out of town, and from any druggist's shop; and I then intimated to him our positive knowledge of his evil habit—which, however, he began to deny again, until I stopped him abruptly with his druggist's admission. He then surrendered a paper of hydrochlorate of morphia, which he took from under his pillow; and gave his consent to anything we chose to do for the purpose of ridding him of his enemy. We proposed to withdraw the morphia at once and entirely, to administer tincture or extract of Indian hemp at night only, and to allow him every four hours half a glass of brandy, diluted with water—a beverage to which, moreover, it appeared that he was not unaccustomed. At the same time, he was placed under the vigilant observation of a sister, who had come from England to look after him.

"The vomiting, which had previously ceased for some days, owing undoubtedly to the resumption of his doses, now recurred with increased severity. For three days and nights, he had excessive retching and vomiting, and extreme muscular prostration; and on the third day frequent watery discharges from the bowels. But, from the first, the brandy relieved the irritability of the stomach for a time, and the Indian hemp was retained in the form of extract, though not in a draught. On the fourth morning, the vomiting and retching ceased. But the diarrhœa continued; neither infusion of catechu nor gallic acid made any impression on it; on the sixth day, there were ten watery evacuations; and therefore a little opium with acetate of lead was used in the way of injection. This had at once the desired effect. On the sixth day, he was able to dress, and sit up for half an hour occasionally; which he had not done for two months. Next day, he walked out for half a mile. The pulse had now fallen from 120 to 90; the tongue was moist, and tolerably clean; the appetite, which had begun to return as soon as he ceased to vomit, was good, and digestion undisturbed; he slept well; thirst was his only uneasiness, and his countenance, although still haggard, was nevertheless greatly improved in expression. Medicines were now abandoned. On the eleventh day, having still continued free alike of sickness and of diarrhœa, he set off for England, and made out the journey comfortably. Three months afterwards, I heard that he went on favourably, gaining strength, and abstaining from opium, and also from stimulating liquors, except sparingly for medicinal purposes.

"This case is probably a good illustration of the usual phenomena, when the constitution has been seriously undermined by the use of opium. It is not easy to imagine a worse case, short of the production of organic disease. The habit evidently could not have been continued much longer without imminent danger to life. Nevertheless, it was broken off abruptly, without hazard. No one can answer for such cures being permanent. An insane craving, as in the instance of the insane abuse of spirituous liquors, may lead to the habit being resumed. But, at any rate, it would appear from the instances given in this paper that the habit may be easily broken; and that there is no danger in suddenly breaking it, in so far, at least, as we see it in Europe. The knowledge of this fact may give to the physician in like circumstances a confidence and determination, which might otherwise be shaken by the symptoms of alarming exhaustion, but without which he can scarcely inspire his patient with the resolution necessary for encountering the trial which must be undergone. It is true that, in some instances, the opium may be withdrawn gradually, in the way recommended by Mr. Little; but I apprehend that, in general, as in the case of habitual excess in the use of spirituous liquors, patients may be found ready to submit to the physical evils of an abrupt abandonment of the opium, who will not undertake the moral trial of a gradual reduction."

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29. *Inunction in Scarlet Fever: with Rules for the whole Treatment, and Prophylaxis of the Disease.* Dr. SCHNEEMANN, physician at the court of his majesty the King of Hanover, has published an important paper, satisfactorily proving the benefit to be obtained from inunction of the whole surface. The eruption is so much modified that the skin is enabled to perform better its essential functions. We abridge a translation of the paper, in the *Lancet* of 15th Sept. 1849.

The advantages of the treatment about to be laid down are the annihilation of the injurious effects of the exanthem on the functions of the skin. The eruption is so modified that scarcely any desquamation takes place; and the skin, instead of burthening other functions, produces, by continuing in a state of comparative integrity, so beneficial an influence on the organs attacked, particularly the throat, that the normal condition is, in every case, and in every part, speedily restored.

Description of the Treatment. As soon as we are certain as to the nature of the illness, the patient must be rubbed, every morning and evening, over the whole body, with a piece of bacon, in such a manner that, with the exception of the face (?) and hairy scalp, a covering of fat is everywhere applied. In order to make this rubbing-in somewhat easier, it is best to take a piece of bacon of the size of the hand, choosing a part still armed with the rind, that we may have a firmer grasp. On the soft side of this piece, slits are to be made in various directions, in order to allow the oozing out of the fat; and this is still further promoted by placing the bacon, for some time previously to using it, near the stove, in the oven, or on the hub. But the fat must be allowed to cool before being used.

The rubbing must be so performed that the skin may be regularly, but not too quickly, saturated with fat. During the process, only that part being rubbed is to be uncovered, or the whole can be done under the bedclothes; but this precaution is unnecessary. Although this plan, from the mess it makes, is not calculated to find favour, as it dirties bed and linen, as well as the persons of the children, yet the first few days yield results which make all this forgotten, and inspire the mothers with enthusiasm. With rapidity, the most painful symptoms of the disease are allayed; quiet, sleep, appetite, and good humour return. Other things, however, are necessary besides infriction with fat; but still the most important share of the merit may be imputed to this treatment. The truth of this will appear from a citation of the first results which follow:—

1. The improbability, I might say impossibility, of the patient getting cold. Were this the sole benefit of the inunction, it would be great.

2. The dry brittleness of the skin, and the tormenting itching, are not only materially alleviated, but, for the most part, fully put a stop to. Hence, children generally like the rubbing-in, and often ask for a repetition of it before the time is come.

3. The influence on the physiological functions of the skin is still more important. During the coming on of scarlet fever, the skin becomes diseased, in consequence of which it dies off; and, until a new covering is prepared for the surface, the functions of the skin are ill performed, or, during the desquamation, probably not performed at all. To appreciate the importance of the imperceptible functions of the skin, merely mechanically viewing the matter, I refer to the experiments of Seguin, which fix the quantity of matter thrown off from the outer skin at eleven grains per minute in a grown person, and therefore more than two pounds per day. What efforts it must cost the organism to lead so large a quantity into other paths, in order to throw it off when the skin is incapable of doing so! To give a striking proof of the bad influence which the interrupted functions of the skin produce on the healthy activity of relative, even of distant organs, I may cite the fact that death is always the result, where more than one-half of the skin has been destroyed by fire or boiling liquid. A similar destruction of the skin ensues in scarlet fever, with this difference, that it takes place gradually, and thereby the organism is better enabled, by employing all the activity of the body, to find aid against the mischief which, to the injury of the patient, must result from the cessation of the functions of the skin.

4. The oxidation of the blood is thus considerably promoted, the interrupting of which is the cause of such serious phenomena. As the disease of the throat is not improbably, in great part, due to the interruption of the functions of the skin and lungs, it must naturally disappear, or not present itself, where these are continued in integrity; and such is found, in practice, to be the case.

5. Owing to the fatty covering, the skin is kept moist, and the cuticle cannot

be driven about the room by currents of air; and thus *one fertile source of infection is kept closed up*, it being well known that infection is most easily communicated at the period of desquamation. The danger of infection, under any circumstances, is materially lessened with the disappearance of the eruption from the skin, inasmuch as the process of generating infectious material is interrupted by restoring the skin to its normal state.

6. By shortening the period of desquamation, and protecting the patient against the sequela of the disease, the duration of the treatment can be shortened to a period of from six to ten days.

7. The remedy is (cheap), harmless, practical, and is perhaps never counter-indicated. The linen must not be too frequently changed, as a clean shirt takes up more of the fatty matter than one already saturated, and hence the skin is sooner deprived of its fatty covering. The rubbing-in is to be kept up twice a-day for three weeks, and once a-day during the fourth. The patient is, after this, to be daily washed with cool water and soap, and then only is the warm-bath to be commenced. This process does not (as has been argued in some colleges) interfere with the natural course of the malady, and expose the individual to second and third attacks. In severe cases, the remedy may be repeated three or four times within the twenty-four hours. The main point is to keep the skin *always* cool and moist; and here, even with all possible precaution, the skin will sometimes come off in certain places. The practitioner will do well to fix the exact hours at which the rubbing-in is to take place; it will then most probably be better and more regularly performed.

Other points, which are also important enough, now remain to be noticed:—

8. *Temperature.* Experience proves that it requires no great daring to keep the patient *cold* instead of hot. Cold washing is *not* to be employed, as it promotes desquamation. Cool air seems to have a bracing influence on the system, and a soothing one on the respiration; and all danger is avoided by the fatty covering. The temperature of the bed-room should never be above 13° R. The idea of throwing back the eruption by mere cold air is an error. Great heat is much more likely than cold to throw in the eruption. In fact, the fatal cases of this kind are principally those where, through keeping the patient too hot, the cerebral affection has been brought on; this has given rise to paralysis, which appears sooner in the skin than in other parts, and thus to the withdrawal of the eruption—for the skin dies sooner than other parts, as shown in collapse, where mustard poultices do not act as in other states.

9. *Bed.* The patient should not remain in bed any longer than is absolutely necessary. As soon as the fever, headache, and a desire to remain in bed, are gone, he may quit it, for in bed the skin is between two fires,* and the functions of the body do not go on so well as in moving about. Hence, even when the patient must lie down an hour or two daily, he should still go about the rest of the time.

10. *Diet.* The diet should be light, but there must be no starvation, and as rapid a return as possible to the usual food.

11. *Washing.* Although it brings on desquamation, it will be as well to let the patient occasionally wash his hands and face with water and soap. It reconciles him to the dirt attendant on the rubbing-in.

12. If *constipation* ensue, it must only be combated with medicines; when, at the end of forty-eight hours, it makes no semblance of disappearance, then a clyster of poppy oil is the best remedy.

The author enters his protest against a partial employment of his remedies.

Complications require a Modification of the System. 1. *Severe cerebral symptoms at the commencement.* The above treatment can only be applied, where time is allowed for the development of the restorative process. Occasionally the case is accompanied at its very outset by severe cerebral affection, and convulsions. Here bleeding may be employed, and, if necessary, unhesitatingly repeated. To support this view, Dr. Schneemann instances the authority of Armstrong, Bernd, Stieglitz, Hammond, Hingeston, etc. Venesection

* Here it will be as well to state that in Germany a feather-bed is frequently substituted for bed-clothes.

is, accordingly, the sheet anchor. The other remedies are—1. The application of concentrated cold to the head; and the best form for this is ice. The cold dash is often more hurtful than useful, on account of the serious reaction which follows it, and exposes the patient more to the dangers of an apoplectic attack, although its results for the minute are often very flattering. *At the end of every two hours, the bladder of ice should be removed*, in order that the uninterrupted effect of the cold may not weaken too much the tone of the vessels of the brain. Warm mustard plasters to the shins are a most valuable remedy. Internal remedies are generally of little use where the above-given remedies fail; the only one of any importance is the carbonate of ammonia. Mercury is of little value, except just to open the bowels: for its specific action never comes into full play till the system is throwing off the affection. There are, however, much better purgatives than calomel; the saline, for instance. Emetics ought not to be tried in cases complicated with cerebral affection; in others, they may. The aconite failed in the author's hands, both in tincture and solution. With regard to the treatment by leeches and ammonia, so many writers have already pointed out its good results, that the author can safely recommend it, but with the proviso that in urgent cases bleeding be substituted for leeches.

2. *The Affection of the Throat. Primary.* As this is but a link in the whole, so must the measures taken for its removal be such as will remedy the general affection. *Secondary.* For this, the rubbing-in, as it acts by prophylaxis, is the best possible remedy; but where this has not been brought into use, or where, from keeping the patient too warm, desquamation has come on, and the secondary sore-throat has set in, the best remedy is the use of emetics. They not only remove the tough glazy slime, but excite the secretions and excretions to more normal disposition, and this is especially the case if the disorder have a gastric character. Many, by confounding the employment of emetics in the early and latter stages, have brought them into discredit. For the swelling of the tonsils, an excellent remedy is a solution of nitrate of silver (twenty grains to an ounce of water), with which they and the soft palate are to be painted; but so many varieties present themselves in these secondary attacks following on scarlet fever, that no general rules can be laid down. Here everything depends on the discrimination and judgment of the practitioner.

Prophylaxis. Warm clothing, separation from school, and, above all, light diet, are the best preventives. That the younger children, as more predisposed than the others, must be more carefully separated from the sphere of infection, is doubtful practice. Not only are many children never infected—who, however, by adopting this system, require to be as carefully secluded as the others, thus causing great inconvenience—*but the mildening influence and actual advantage of a gradual accustoming to the infection are thereby lost, and consequently the attack, when it comes, is so much the more severe.* The free communication with the patient is good, in order that constant exposure may, as in the case of physicians and nurses, blunt and wear out the disposition to the disease; for as it now is, children are separated from the patient during the first period, which is the mildest, and exposed to contact with him during the process of desquamation, which is the source of the most dangerous infection. Many preservatives have been vaunted against this malady during its epidemic appearance; of these, however, the only one apparently deserving of much credit is the belladonna. Its action appears to be, "by altering the relations of the nervous system, to diminish the disposition to the disease." The author's prescription is—Take of extract of belladonna one to two grains; distilled water one ounce. Mix. Give to each child, morning and evening, as many drops as it has years, and continue to do so at least fourteen days. But not to confine himself to his own testimony, Dr. Schneemann gives that of Jordens, Ettmuller, Hedenus, Gumpert, Hufeland, Martius, Pormey, Behr, Benedix, Thaer, etc., who have testified to the value of belladonna; and though he admits that as many opponents might be found, he thinks it scarcely credible that all the former had deceived themselves. In certain sections of the circle of Bayeux, Dr. Feron preserved from scarlet fever all the children who had not been attacked before he commenced operations. In 400 cases near Valenciennes, treated with belladonna, not one person was attacked. Hahnemann has, how-

ever, only recommended it where the eruption is smooth, bright-red, and in large patches. But where there are roughness and purpleness of the skin, it seems to be useless; and it may be that the bad success of many cases was owing to the neglect of this distinction.

In the *Boston Med. and Surg. Journ.* (May 15th, 1850), Dr. H. Lindsly has the following paragraph: "Scarlet fever has been exceedingly fatal in this section of country during the past winter, sweeping off whole families of six, seven, and in some instances eight children; and bidding defiance to all the ordinary modes of treatment. It was under these appalling circumstances that I met with the article in the London *Lancet*, detailing Dr. S.'s mode of treatment. I at once determined to give it a thorough trial, and have accordingly employed it in every case that has since occurred in my practice, with the exception of three or four that had the disease very lightly. Some of these cases were of great severity, and just such as I had repeatedly lost under the ordinary treatment; yet they all recovered rapidly after the employment of inunction. So far as I can judge from this very limited experience, I have come to the conclusion that the introduction of this simple mode of medication will probably be found the most important improvement that has been made for many years in the management of scarlet fever."

We are inclined to concur in the hopes of Dr. Lindsly, from having seen in one case apparently very great benefit result from frequent smearing of the surface with olive oil; and from having been informed of the very great success which attended the treatment of an aged and now retired practitioner, whose habit, in many scarlet fever epidemics, had been to cover the surface of his patients with a thick, and often renewed, lather of soap, laid on with such a brush as is used in shaving.—*London Journ. Med.*, Sept. 1850.

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30. *On the Use of Tannin in various Diseases.* By S. S. Alison, M. D.—The author states that he has during the last six years been in the constant practice of prescribing tannic acid in various diseases, and his experience has led him to consider it as a most efficacious and valuable remedy.

We omit his remarks on the history and proceed to quote those on the physiological and therapeutical effects of the article and its mode of administration.

"1. As an Astringent, I have found tannic acid exceedingly efficacious, certainly as much so as any other agent, vegetable or mineral, that I have ever employed. It has equalled the salts of lead, copper, and zinc, without producing any of those poisonous effects which are liable to follow the free use of the salts of the first two metals.

"*Internal Use.* In the *chronic bronchial catarrh* of weakly and elderly persons, unconnected with disease of the heart or great blood-vessels, and attended with copious and debilitating expectoration, the administration of tannic acid by the mouth, in doses of one, two, and three grains, two or three times daily, has greatly and gradually abated the secretion, relieved the frequent cough, and improved the strength of the patient. In the second stage of *pulmonary consumption*, viz., that of softening, when bronchial catarrh has been present to a large extent, weakening the patient, causing frequent cough, and disturbing sleep, the same results have followed, and have greatly contributed to the comfort and welfare of the sufferer. But in pulmonary disease, the greatest amount of benefit has obviously been derived when large cavities have been present in the lungs, the walls of which have thrown out large quantities of purulent matter, occasionally mixed with blood. In such cases, the discharge has been effectually controlled, and the rate of tear and wear of the system obviously restrained, without the induction of oppression or other evils.

"In *chronic diarrhœa*, which had resisted the ordinary treatment by chalk, opium, and regulated diet, and was not dependent on obstructive disease of the heart or liver, tannic acid, in a solid form, has proved of surprising efficacy. In cases of severe disease, depending on an irritable weakly mucous membrane, I have not known of one failure; and of those examples connected with chronic inflammation and disorganization of the mucous membrane, only two proved beyond the influence of this remedy. These two cases occurred during the last autumn, while cholera was prevalent; and the disease of the mucous membrane

was extensive. The complaint in one of the examples was of long standing, and the patient had been addicted to habits of intemperance. But it was not tannic acid only that failed; the salts of copper, iron, lead, and zinc, in large doses, proved to be of no more avail. In this form of disease, tannic acid was administered in the form of pill, in combination with opium.

"In *leucorrhœa*, unconnected with inflammatory action, I have found tannic acid efficacious in restraining the discharge, and in increasing the strength of the patient. The aqueous solution, combined with a small proportion of dilute nitric acid, was the form usually employed in these examples of disease. In *menorrhagia*, not dependent on a plethoric state of the system, or on local congestion, it was also serviceable, administered in the same form.

"The excessive *sweating in phthisis*, and in other diseases running on to a fatal termination, has been usefully restrained by the use of tannic acid, combined with dilute nitric acid; and the habitual cold damp upon the skin of soft, weakly constitutions has been corrected by the same means. I have had no opportunity of testing the virtues of this remedy in the *hemorrhagic diathesis*; but I am strongly disposed to believe they would be found very considerable, conjoined with other suitable means. I believe it would prove serviceable in *albuminuria*, dependent on chronic disorganization of the kidney, and not associated with obstructive disease. When the egress of albumen results, as I believe it often does in no small degree, from reduced tone and elasticity in the organ, and is not (as in a great majority of cases) a wholesome outlet necessary for the relief of the circulation, tannic acid offers the promise of benefit. Such a case, however, I have not lately met with, and consequently have not had an opportunity of testing the treatment.

"*Local Application.* In the form of aqueous solution, used as a gargle, tannic acid has been most useful in correcting relaxation of the throat. Sponginess and hemorrhage of the gums have been greatly controlled by a lotion of tannic acid, and by the application of the dry powder. By this means, loose teeth may be retained for a time, and the impediment to articulation thereby prevented, which would result from their removal.

"In *prolapsus ani* I have prescribed tannic acid, dissolved in water, as an injection. This remedy is particularly indicated, when the disease is associated with great relaxation of the solids. Applied to *hemorrhoidal tumours*, free from inflammation, in the form of a fine powder, mixed with lard, it would doubtless prove more efficacious than galls, the usual remedy. It is assuredly due to the tannic acid which it contains that uva ursi proves serviceable in *catarrhus vesicæ*.

"In *gonorrhœa*, chronic or about to become such, tannic acid, applied externally as a lotion, has proved serviceable. In the latter mode, it has induced no smarting, although the parts have been tender, and though it has been applied with little intermission for several days. It is as a *local* astringent that tannic acid produces the most obvious effects, as Dr. Garrod has remarked.

"Of tannic acid as an astringent, I have merely further to say, that it is of special excellence, as an external application to the skin, when such a remedy is required. I have found it of extraordinary efficacy, when reduced to a fine powder, mixed with lard, and applied to the skin. The parts soon acquire a healthy aspect; very little of the smarting or pungency is experienced, which so generally results from the use of the salts of alumina, lead, zinc, or copper. I have found it far superior to gallic acid. By way of testing their comparative powers, I lately applied an ointment of gallic acid to one spot of psoriasis, and one of tannic acid to another. The strength of both was the same. The spots were of old date, and had resisted much treatment. In the course of two days, the spot to which tannic acid had been applied was all but healthy; that for which gallic acid had been similarly employed was more inflamed than before. The gallic acid had caused smarting, and brought away the protecting scales. This treatment was adopted merely to test the comparative powers of the two acids, and not as curative practice. Astringents, if they be applied in psoriasis, must be used only as subsidiary to other treatment.

"2. As a PEPTIC (πεπτω, coquo), tannic acid is very efficacious. This I soon found, while employing it as a pure astringent. Symptoms of dyspepsia dis-

appeared under its use, the appetite increased, flatus and sense of distension were abated at the same time; and, in several instances, the bowels, far from becoming constipated, acquiring a more healthy tone, actually became more free. A lady affected with phthisis, who has been under my care for three years, during which time she has taken tannic acid alternately with cod-liver oil, complained, very lately, of loss of appetite while taking the oil. The morning dose of the oil was replaced by tannic acid, combined with dilute nitric acid; and the result was a very striking restoration of the appetite. With such obvious improvement in the condition and action of the stomach, it is reasonable to believe that one of the results is the formation of a more perfect chyle. The action, as a peptic, is in accordance with the statement of one of the best writers on Materia Medica. Dr. Pereira says, 'Administered in moderate doses, they (astringents) promote the appetite, assist digestion,' etc.

"3. As a HISTOGENETIC, in *promoting the genesis*, and in *improving the quality of the blood*, tannic acid, it may be inferred from what has been stated above, would probably prove effective. But that it is really so, I have the evidence of improved complexion, greater fulness of the blood-vessels, increase of strength, buoyancy of spirits, and improved secretions, in numerous examples of anæmic and other diseases, in which this agent has been long employed.

"The *formation of structures in the young*, I have reason to believe, is subserved, to a valuable extent, by the long-continued administration of tannic acid, in moderate doses. It is nearly six years since I began to prescribe this remedy in cases of curvature of the bones in children, with soft shafts and enlarged epiphyses. The number of cases placed under this treatment, while I was Physician to the Northern Dispensary, was considerable; and not a few occurring in private practice were similarly treated. The general health was improved in all. The secretions, in many cases exceedingly offensive, were greatly corrected. In the course of a year or two, an obvious improvement in the shape and form of the bones was manifest. The curve was reduced; and the heads of the bones had lost no small amount of their disproportionate prominence. I have lately seen two or three children, presenting no appearance of having suffered from this affection of the bones, who, some years ago, really were deformed, and who were put under the influence of tannic acid, and also, it is true, of suitable regimen. In most of these examples of disease, when they came under my care, the urine contained an undue proportion of lime. This continued to be the case, at least for some time, even under the use of tannic acid, though perhaps not to the same extent. If tannic acid really possess the power of correcting the tendency to rickets, or of staying the progress of this affection, it cannot be through any astringent action on the kidney arresting the exit of an undue quantity of lime, which is only a sign or consequence of the disease, and not its cause. It must act by invigorating the general health, and by imparting a more healthy character to the formative processes, by virtue of which lime and other mineral ingredients in the blood are more forcibly attracted to, and fixed in, the osseous structure. Further evidence of the power of tannic acid to improve the formation of tissues has been afforded by the increase in the volume and firmness of the soft parts of children placed under its operation, which I have frequently observed.

"4. In connection with HETEROLOGOUS FORMATIONS, tannic acid has been largely employed in my practice; and as far as I can judge, and with every wish to be impartial, I believe it has been operative, to a great and valuable extent, in arresting or retarding their growth. Almost every case of incipient tubercular deposit in the lungs, which came under my care, either at the Northern Dispensary or in private practice, some years ago, was treated, at least in part, with tannic acid; and I have been agreeably surprised to find that not a few of these very patients are now alive, some apparently not nearer the grave than at that time, and some in really improved health. I was consulted in the case of a young lady, five years ago. The apex of the right lung was solidified with tubercle, and the patient had rapidly deteriorated. Sir James Clarke saw her with me, and Dr. Watson, at a later period, also visited her. Tannic acid was employed, after the more ordinary practice had been adopted; and though other means have been in use on different occasions, I attribute much of her

present health to the acid. That lady's lung is still solidified, the respiration is bronchial, and percussion is absolutely dull; but the general health is equal to that of the other members of the family, and permits of her going abroad.

"A young lady from Bow consulted me. She was considerably emaciated, had frequent cough, with much muco-purulent expectoration, occasionally mixed with blood; percussion at the left clavicle was dull; the vocal resonance was augmented; the pulse was rapid; there was much sweating; and the patient, in short, was rapidly breaking up. With counter-irritation, opium, and tannic acid combined with dilute nitric acid, very great improvement soon took place. The flesh increased in volume, the cough and expectoration greatly abated, and the respiration became easy. After this, tannic acid was made to alternate with cod-liver oil. She mended so much that, without asking my advice on the subject, she married soon after. I saw her subsequently, and found her still improving. That lady is now in fair health, and, I understand, was safely delivered of a fine child some weeks ago.

"An elderly single lady lost her brother five years ago. She was deeply afflicted, and became, immediately after this loss, the subject of tubercular deposit in the apex of the right lung. Percussion was very dull over the affected lung, and there was occasional cough; but the chief symptoms were breathlessness, sweating, and rapid pulse. Dr. Watson saw her, along with me, three or four years ago, and recommended dilute nitric acid, etc. I subsequently gave her tannic acid, and, with intermissions, she has taken it up to this time, generally in combination with nitric acid. Cod-liver oil has likewise been employed sometimes at one part of the day, while tannic acid has been given at another, and sometimes for a week, alternating with the acid. That lady is still under my care. She is very little worse than she was three years ago. The tubercles have softened, but there is no cavity. The chief alteration for the worse has been a moderate increase of the emaciation, of the cough, and of the expectoration. She is able to walk out, except in bad weather; talks with energy, has a vigorous appetite, and sleeps well. She takes, at present, tannic acid in small doses (for she has a somewhat irritable stomach), with dilute nitric acid; cod-liver oil is still occasionally employed. She has no occasion for opiates or purgatives.

"Mrs. W. had solidified lung, much tenacious muco-purulent expectoration, occasional spitting of bloody fluid, and frequent cough. Small portions of a dark brown substance, apparently separated lung-tissue, were occasionally brought up. They had an extraordinary corrupted fetor, with something of the odour of sulphuric ether or of naphtha. Counter-irritation and opiates were employed. Tannic acid, dissolved in infusion of gentian, and combined with dilute nitric acid, was administered, with the result of improving the general health, and of checking the fetid expectoration.

"The deposition of tubercular matter, it is reasonable to believe, may be retarded by the use of a remedy which improves the health both of the solids and fluids of the body. The surrounding lung-tissue may be so beneficially acted on as to reduce the tendency to inflammation and to disorganization. With respect to malignant heterologous formations, I have had no opportunity of seeing them under the influence of this remedy, except as an external temporary application; but I think it is consistent with what we see in other diseases to believe that the cells of cancer may be checked or retarded in their growth by its long-continued administration. The normal formation of nutritive processes may receive such an impulse, as effectually to interfere with the almost monopolizing growth of malignant disease. With a more healthy condition of the capillaries, and a more perfect quality of blood, may we not hope for some benefit? It may be allowed, with this view, under such desperate circumstances, to administer a remedy which, if not effectual against the major evil, will at least improve the general health; and that without the production of any ill consequence worthy to be called by a higher name than that of inconvenience.

"5. As a Nervine of a lasting character, I have found tannic acid useful in several cases of nervous debility, languor, and excitability. These distressing conditions have been relieved; and the benefit, in one or two examples, has been permanent. Under the use of moderate doses of this medicine, I have

known even the symptoms of weakly organization—or, as I have thought, of impending softening of the brain, such as flightiness of speech and manner, impatience of attention or of application, hasty judgments, weakness and unstable gait—to lose not a little of their prominence. It has always, however, been my object to guard against depending on this or any other such remedy, where there has been good reason to suspect the presence of inflammatory action, even in a subdued form. When thus used as a nervine, tannic acid should generally be combined with camphor, hops, or hyoscyamus. The shower-bath has been employed, and the secretions have been attended to, at the same time. Thus exhibited, I believe that tannic acid, by improving the natural galvanic battery, if our brain and nerves may be so figuratively designated, will really, in many cases of feeble volition and muscular action, produce not a little of that benefit which has been sanguinely looked for from galvanism and electricity, and which, when obtained, has been so fleeting—at least in my experience.

"*Mode of Administration of Tannic Acid.* For administration, tannic acid is well suited. It possesses no great bitterness, is free from odour, and does not induce nausea. A little sugar or syrup will suffice to cover all unpleasantness. It is perfectly safe, and may be continued for months without any evil effect. In moderate doses, it does not reduce the secretions below the healthy standard. It may be administered at all hours,—before, or during, or after meals.

"Tannic acid may be employed alone in the treatment of disease; but it is capable of exercising its virtues harmoniously with other remedies. The use of this medicine does not preclude the employment of iron, cod-liver oil, and other such means; but, on the contrary, I believe it will make them more available to the patient. It may be given at one time of the day, and the other remedies at another; or a week or a fortnight may be given alternately to each medicine. Tannic acid, moreover, may be advantageously combined at the same moment with other means. It may be prepared with bitters and aromatics, or conjoined with astringent wines.

"For diseases of the mouth, tannic acid may be dissolved in water: three or four grains to the ounce of water make a strong styptic lotion. It may be reduced to a fine powder, and dusted over the parts. Mr. Morson has prepared a lozenge, which is well adapted for the mouth and throat. Each lozenge contains about half a grain of tannic acid. Some have had added to them essence of cayenne, the more to fit them for relaxation of the fauces and glottis. For the stomach, the aqueous solution is well adapted: and, when a pure bitter is required, some infusion, such as that of gentian, may be used instead of water. When it is intended to influence the bowels, tannic acid is suitably exhibited in the form of pill; and as circumstances indicate, in combination with opium or other remedies. If we desire it to enter the circulation, or to act quickly, at a distance from the stomach, on some internal part, the form of solution or powder should be employed. As a styptic for the rectum, uterus, vagina, or urethra, the aqueous solution, used as an injection, will generally prove most serviceable. For local skin diseases, requiring an astringent, tannic acid may be advantageously used, either as a lotion, or in the form of ointment. As, however, the application is really effective, it will be well to attend, at the same time, to any requirements that the general system may demand. Reduced to a very fine powder, I have found that tannic acid may be inhaled into the lungs and air-tubes. It has produced no irritation or cough, when tolerably well managed. I have not had much experience of it in this form; but I believe that a cautious trial might be made of it in cases of disease of the lungs and air-tubes, in which the local application of a non-irritant styptic is indicated.

"The dose of pure tannic acid must vary according to the circumstances under which it is employed. For urgent disease, such as hemorrhage from the stomach, bowels, or lungs, five to ten grains should be used every few hours. For chronic fluxes, wherever situated, two or three grains, given twice a day, will generally suffice. When the general improvement of the health is simply desiderated, one or two grains, two or three times daily, are enough; but the remedy should be long continued. For children afflicted with rickets, half a grain to one grain answers well, given night and morning.

"Tannic acid is contra-indicated in hemorrhages and fluxes, wherever situated, which are only the relieving of an obstructed circulation, or of inflammatory or congestive action. It is, under such circumstances, calculated to do mischief. In obstinate constipation of the bowels, when circumstances render a lax state necessary, tannic acid is contra-indicated in large doses, as a general rule. Irritability of stomach and gastritis are liable to be aggravated by tannic acid.

"Several preparations of tannic acid have been carefully prepared, at my suggestion, by Mr. Morson, the eminent pharmaceutist, of Southampton-row. These preparations are the tannates of quinine, cinchonine, alumina, bismuth, and lead. They are all coloured, possess more or less the styptic taste of tannic acid, and are inodorous. I have not yet had time to make sufficient trial of them, so as to be enabled to report at present upon their virtues. I shall now only hazard an opinion that they, as well as tannic acid itself, will be found, upon full trial, to possess very considerable power, and to form valuable acquisitions to the resources of the physician, wherewith he may render himself more formidable to disease, and still more serviceable to the sick."—*London Journ. Med.*, Jan. 1850.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL SURGERY.

31. *Preparations illustrative of the Mode of Origin of Aneurisms of the Aorta.*—Dr. Peacock exhibited to the Pathological Society of London (May 20th, 1850) three series of preparations consisting of,

1st. The upper part of the descending aorta from a man, 29 years of age, who died from the rupture of a small aneurism into the left bronchus. In this preparation are seen two sacculi, each capable of lodging a pea, of a round form, but not very distinctly circumscribed.

2. A portion of the right common iliac artery, removed from a man, 56 years of age, in whom there was an aneurism of the same vessel nearer the heart. The artery was considerably dilated, and immediately above its division there is a small shallow sac, about half an inch in diameter, bounded by a distinct margin below, but very imperfectly circumscribed above.

3. Portions of the ascending aorta of a female, 48 years of age, who died of extensive laryngeal disease. In these preparations are shown four small sacs, all very distinctly circumscribed, and separated by comparatively narrow necks from the cavity of the artery. Two of the sacs are situated on the left side of the vessel, and of these, one is five French lines in diameter at its orifice, and about the same in depth. The other, which is situated below, and somewhat to the right of the first, is altogether smaller. The third and fourth sacs are situated on the right side of the vessel, immediately below the origin of the arteria innominata, and the largest of them has a diameter, at its orifice, of seven French lines, and is about eight lines in depth.

In each of these preparations, the internal coat has been separated from the subjacent tunics, so as to show that it formed, throughout, the lining of the sacs. In the first and third series of preparations the middle and external coats, still in connection, are also preserved, to show the intimate adhesion which had existed between all the tunics around the necks of the sacs, and the thinness, or entire absence, of the middle coat at their bases. The internal coat is thus seen to have been gradually dilated and protruded through the middle tunic, so as, in the last series of specimens, to come in contact with the internal coat, leaving the bases of the sacs only protected by the internal and external tunics. These cases, therefore, afforded examples of a kind of aneurisma herniosum, though unlike the cases described under that name by Dubois, Dupuytren, and Liston. The third series of cases afforded a good opportunity of observing the mode in which the small sacs were produced. A very copious deposit of atheromatous material had formed in the layer of fibrous tissue between the internal and middle coats, and this was most extensive in the

seats of the small expansions, where, also, it had softened into a diffluent grumous pulp, into which the internal coat, being deprived of its supports, had been gradually protruded, while the fibres of the middle coat were pushed aside or removed by absorption.—*London Med. Gaz.*, June, 1850.

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32. *Treatment of Aneurism by Galvano-puncture.* By MM. PETREQUIN and GIMELLE.—It is now some years since M. Petrequin advocated the treatment of aneurism by galvano-puncture, and he has left no means untried, as far as constant publication upon the subject has been concerned, of propagating the practice. He has, however, met with but indifferent success, which is not surprising, seeing that, while the means has proved infinitely more uncertain in its results than the ligature, it requires, according to him, much tact in manipulating with the electricity, and causes the most intense suffering, which even chloroform, in some instances, has failed to prevent. It has been more frequently tried in Italy than elsewhere, chiefly in aneurisms of small vessels, and with only occasionally satisfactory results. We are not aware of its recent successful employment in London and Paris, although we understand M. Petrequin stating as much in one of his papers read before the Academy, wherein he makes no mention of the unsuccessful employment of electricity by Liston and Phillips, long before he himself had taken up the subject. Perhaps the best example hitherto published has been the successful employment of galvano-puncture in the treatment of a subclavian aneurism by M. ABEILLE, an account of which he forwarded to the Academy, upon which M. Gimelle has delivered in an able report. The patient was a lady, æt. sixty-five, and in consequence of the ill success which had hitherto attended the ligature in this description of aneurism, M. Abeille resolved on resorting to galvanism. He employed twenty-two pairs of plates, of ten centimetres in diameter, and four needles. Notwithstanding that chloroform was given, the sufferings of the patient are described as having been horrible, several persons being required to restrain the consequent convulsive movements. After thirty-seven minutes of extreme suffering, the tumour was found to have become hard, resisting, and destitute of pulsation. Moderate compression was maintained above the tumour for ten hours. It had quite disappeared in thirty-seven days, and the cure, now three years old, has held good, the radial pulse being somewhat feebler than on the sound side.

M. Gimelle, in his Report, passes in review the various cases in which galvanism has been employed, and shows that several of these were unsuccessful in even M. Petrequin's hands, while other surgeons have met with suppuration and gangrene of the sac and other accidents. So impressed is he with the numerous dangers and ill-successes of this operation, that he wished the Academy to pass an absolute condemnation upon it. This, however, was considered as too extreme, since cases in which the ligature could not be employed, or had been so usually without success, might sometimes prove amenable to this procedure. This was the view taken by M. Velpeau, who, having lost a patient from inflammation of the sac of a popliteal aneurism, for which he had employed galvanism, is naturally not prepossessed in favour of it. He believes that, in cases analogous to that now related, it should be resorted to. M. Robert took the same view, believing it should be confined to cases in which the ligature is difficult or impossible. M. Laugier, judging from a case which had occurred to himself, in which the sac of a brachial aneurism was obliterated, considers that the operation may sometimes even be advantageously employed in aneurisms of the extremities.—*Brit. and For. Med.-Chirurg. Rev.*, from *Rev. Med.*, vol. i. 1850, and *Bulletin de l'Acad.*, vol. xv.

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33. *Treatment of Aneurism by Compression.*—Sir B. BRODIE, at a dinner given to him by the president and council of the Royal College of Surgeons, Dublin (29th August), in returning thanks for the honour done him, said that "It was not then the time to speak of the many improvements in scientific surgery made by some of the Irish surgeons; but he could not refrain from mentioning one of the latest. The mode of curing the formidable disease of aneurism by a bloodless operation was brought into notice by Irish surgeons, and would, he was convinced, supersede every other plan."

34. *Ulcer of Duodenum after a Burn: fatal in four and a half days by hemorrhage.*—Mr. Cæsar Hawkins exhibited to the Pathological Society of London (May 20th, 1850) a specimen of this description, and remarked that the influence of a severe burn upon the mucous surface of the intestines had been well known since Dupuytren first pointed out the existence of great congestion in such cases; in consequence of which observation many cases of ulcers in the duodenum had been since discovered.

Mr. Samuel Cooper had recorded two such cases about twelve years ago. Mr. Long had described some others in a paper on the general effects of burns. Mr. Curling had described six others in the *Medico-Chirurgical Transactions*, one of which had been observed at St. George's Hospital, and some cases occurring in the same hospital had been published in the Transactions of this Society, by Mr. Hunt. Of the connection of such ulcers with burns there could then be no doubt, though why the duodenum was especially selected in preference to the other small intestine, did not appear very plain; still less, why the upper part of the duodenum alone, close to the pylorus, was the part in which they were almost always found.

In some cases, there appeared to be no sign of the existence of these ulcers during life, but in many others they proved the immediate cause of death, producing pain in the epigastrium, and vomiting, and terminating fatally, sometimes by ulcerating into the peritoneum, sometimes by hemorrhage; in which latter case blood may be brought up by vomiting, or passed in the evacuations, or discharged in both ways; and in one case of Mr. Cooper's, blood was found between the stomach and colon, after ulceration had taken place through the peritoneum; the fatal result of these ulcers seemed to take place at very various ages, though generally in young persons, and also at very different periods after the accident. With regard to hemorrhage, it is singular that, while it occurred in six out of ten cases seen or collected by Mr. Curling, the case now before the Society is the first in which Mr. Hawkins had himself known it fatal

The patient was a little child, six years of age, admitted after a burn of the arm, and upper part of the body and side of the face, and not affecting the duodenum. There was some collapse at first, after which the child seemed to go on pretty well for four days, but just after the expiration of the fourth day it became suddenly faint, and weak, and sinking, and died on the following morning, exactly four days and a half from the burn, having been, as far as was known, in perfect health before that time. There was no vomiting of blood, or discharge by the bowels, so that when Mr. Hawkins found it had died he was at a loss to account for the fatal collapse at this period after the accident. On looking for the existence of an ulcer in the duodenum, as he usually did, he found this part full of blood; and many other parts of the small and great intestines, down to the rectum, contained also some blood.

In the upper and back part of the duodenum, very near the pylorus, may be seen an ulcer, which appears smaller from contraction after its immersion in spirits, but which, when examined, was about an inch and a quarter long, and nearly three-quarters of an inch in breadth. It had exposed the muscular fibres at the lower part, but nearer to the pylorus it may be observed to have gone through this coat towards the pancreas, and crossing it may be seen an artery or large branch of the pancreatico-duodenalis, close to its origin, which now has a bristle within it, but could be seen by the eye as if half of the vessel had been cut off for half an inch of its course; the vessel having doubtless been the source of the sudden and fatal hemorrhage.

Mr. Hawkins remarked that he had looked through the dates of the fatal result of these ulcers, and found only one which approached to the rapidity of the present case; it was one of those recorded by Mr. Cooper, in which vomiting of blood had been noticed on the sixth day, and the child died on the seventh day; while in Mr. Hawkins' case the collapse took place just after the completion of the fourth day, and in four days and a half from the occurrence of the accident the child was dead.—*London Med. Gaz.*, June, 1850.

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35. *Laryngotomy and Tracheotomy.*—The question whether the operation of laryngotomy or that of tracheotomy should be performed for the relief of as-

phyxia, resulting from obstruction of the larynx, whether that disease be acute, or consecutive to a chronic affection of the organ of voice, is of very considerable importance to the practical surgeon, and has been most satisfactorily answered in favour of laryngotomy in a very interesting paper published by Mr. P. Hewett in the *London Journal of Medicine* for February, 1849. In this communication, Mr. Hewett states that, in all cases of acute inflammation of the larynx in adults, and in those cases that occur in children from swallowing boiling water or other irritating fluids, the obstruction is seated *above* the inferior vocal chords; the mucous membrane covering them, or that below them, not being in the slightest degree thickened; and that consequently, as laryngotomy is a much simpler and safer operation than tracheotomy, it ought to be preferred in these cases.

John Erichson, Esq., states that he has been led to a similar conclusion in favour of laryngotomy by an inquiry into this subject, on which he entered some time since, and in the course of which he examined various recent specimens of inflamed and obstructed larynx, and those preparations of disease of this organ that are preserved in several of the pathological collections in London, without being able to meet with one in which an opening in the crico-thyroid membrane would not have relieved the asphyxia equally as well as one in the trachea. This examination determined him in future to have recourse to laryngotomy rather than to tracheotomy in acute obstructions of the glottis, whether primary, or supervening in chronic ulceration or disease of the part. This determination was strengthened by the result of the post-mortem examination of two cases in which he had performed tracheotomy—the one, of old syphilitic disease of the larynx, followed by acute œdema; the other, of erysipelas of the glottis, in both of which the obstruction was found to be situated above the inferior vocal chords.

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36. *Treatment of Stricture of the Urethra by Caustic.*—Mr. Brown read to the Medico-Chirurgical Society of Edinburgh a letter from the late John Walker, detailing the mode employed by the latter of treating strictures of the urethra by the application of potassa, and exhibited the instruments used for the purpose.

Prof. Syme stated that the opinions of Mr. Walker were not new to him; for, after that gentleman's retirement from practice, he had often conversed with him upon the same subject, which was so fully treated of in the letter just read by Mr. Brown. Mr. Walker was certainly a talented and enthusiastic practitioner, and was actuated by the best intentions in advocating the treatment of stricture by caustic. His principle was to apply the potassa to the sides of the stricture, and not to rest satisfied with pressing his caustic against its anterior extremity. Members might judge for themselves whether the mechanical contrivances exhibited could possibly accomplish this object. Now-a-days, when such an instrument as he held in his hand, of the full size of the healthy urethra, could be passed through a stricture, further dilatation would be hardly thought necessary. As to the cure of a very tight stricture by any such means, he believed it to be quite impossible. It was also remarkable that Mr. Walker and others, who recommended the use of caustic, reserved the nitrate of silver for the most intractable cases, and used the potassa (a far more unmanageable and destructive agent) in treating cases in which ordinary dilatation would have effected a cure. Forty years ago, Mr. Benjamin Bell collected the opinions of the most celebrated surgeons in London and in the provinces upon the subject of the treatment of stricture by caustic; and by the kindness of his grandson, Mr. Benjamin Bell, he had just been put in possession of these opinions. They consisted of letters from Mr. Pearson of London, Mr. Hey of Leeds, Mr. Park of Liverpool, and other men of note; and the arguments against Sir Everard Home's practice, which were urged by these eminent surgeons, were precisely such as were used at the present day. They detailed cases in which the practice had induced enormous mischief, by hemorrhage, fistula, hernia humeralis, and obliteration of the urethra. Although the fear of opposing the fashionable practice of the day had, forty years ago, deterred these gentlemen from publishing their opinions, there was now fortunately no occasion for such reserve; and accordingly, with Mr. Bell's permission, he proposed soon to lay before the public a part, at least, of this interesting corre-

spondence. The caustic was now condemned by the majority of the profession as dangerous. Simple dilatation by the bougie was held to be the appropriate mode of treatment for most cases; and his own opinion was that, when a case was not benefited by this plan, the division of the stricture, by cutting on a grooved instrument passed through it, would safely effect a cure. But upon one point he must particularly insist—a grooved instrument must be passed as a preliminary step in the operation. Objections had been urged against his operation, founded on the unsuccessful result of certain cases of so-called impermeable stricture, which had been treated by passing an instrument down to the seat of obstruction, and then groping for the canal behind it with the bistoury. He had found it necessary to point out the essential difference between this operation and the one which he had himself recommended: and had been asked in return, what treatment he proposed for cases of *impermeable* stricture? He had replied that he had never met with a case in which an instrument could not be passed through a stricture, and that he would be happy to pay the travelling expenses of any patients sent to the Royal Infirmary, with certificates of impermeable stricture, signed by a London hospital surgeon. He trusted that he could demonstrate, by the public treatment of such cases, that the impermeability had no real existence when tested by the careful use of bougies of sufficiently small size.

Dr. MACLAGAN had witnessed Sir Everard Home's practice in St. George's Hospital, many years ago. The use of the caustic caused an amount of suffering which it was painful to recall; it was followed by hemorrhage in a great number of cases, probably amounting to a tenth of those treated; it never effected a cure which could not be attributed to the simple dilatation of the urethra by the bougies employed; and relapses were extremely frequent in Sir Everard's practice. It was well known that the results observed in Calcutta by Dr. Hare, in the practice of certain surgeons who used the caustic, were anything but favourable.

Mr. KERR mentioned a case in which a French surgeon in Malta had inflicted such injury on a patient's urethra by the application of the caustic, that he was obliged to send him to England to be cured.—*Monthly Journal Med. Sci.*, July, 1850.

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37. *On Iodine Injections in Hydrarthrosis.*—When recently dismissing two patients in whom he had successfully used iodine injections, M. VELPEAU took a general review of the present state of the question of the propriety of employing them in dropsical joints, his observations forming a sort of appendix to the celebrated Academic discussion, a few years since.

He observed that the ill success recorded by Boyer and other surgeons, as resulting from throwing injections into joints, much alarmed practitioners; the mischief which resulted, however, really depending upon the nature of the cases which were selected and the procedure adopted. M. Velpeau appealed against the abandonment of the practice on these grounds. For fifteen years he had employed iodine as an injection in hydrocele, without any dangerous inflammation being excited, so that he was encouraged to extend its application to various serous cysts; and in his "Operative Medicine," published in 1839, he suggested that it might without danger be thrown into the peritoneal cavity, an opinion afterwards confirmed by its injection into congenital hydrocele and hernial sacs. It was only in 1840, however, that he ventured to inject the knee-joint in two instances, and that by accident, the tumour in the ham communicating with the cavity of the joint. The good success of these cases, and of others in which joints were purposely injected by M. Bonnet, of Lyons, led him, however, to adopt the practice in numerous other cases. At least fifty such, treated by different surgeons, are now on record, in none of which were any alarming symptoms developed. The dangerous and fatal consequences resulted, in Boyer's cases, from the joint being widely laid open, and irritating fluids several times thrown in; while in the modern operation the smallest possible trocar is employed, and, in the majority of cases, a single injection suffices. The pain and febrile action in some cases have been considerable, requiring for their removal, in the opinion of some surgeons, leeching and abstinence; but M. Velpeau has always found them, as in the case of their

appearance in hydrocele, if let alone, gradually disappear. Their occurrence at all is, indeed, rare. In general, a little redness, pain, and swelling are observed after the injection, and are soon followed by slight fever. Increasing during three or four days, these symptoms then become stationary; afterwards to diminish, and to entirely disappear about the fifteenth day, together with a part, or sometimes all the tumefaction.

M. Velpeau now considers there is not more danger in injecting a joint than the tunica vaginalis, the chief fear being, indeed, that the operation may fail. Injection, in fact, succeeds best in proportion as the cavity more nearly approaches a simple serous one. Thus, in cysts of the neck, where the membrane containing the fluid is everywhere surrounded by soft tissues, the operation never fails. In the tunica vaginalis, where the testis places the serous membrane in a less favourable condition, failures are sometimes, though very rarely, met with; while in the joints, in which the serous membrane is free only to a limited extent, and chiefly lies on solid or very hard parts, success is more rare. Still, as the employment of injection is not preventive of other means, is not dangerous, and scarcely more painful than a blister, we should always resort to it, when a simple collection of fluid resists ordinary treatment. As, however, such collections are usually capable of being dispersed, it is an operation not often demanded, and it should not be resorted to when the collection of fluid is dependent on caries, necrosis, &c. The fears entertained by some that anchylosis might result, are unfounded, the patient recovering the use of the part as soon as the swelling has disappeared.—*Gazette des Hôpitaux*, No. 58.

The French practitioners do not seem to have taken much notice of the writings of Dr. Borelli, of Turin, upon the employment of iodine injections in various affections, although he has been one of their most active advocates. In the last paper we have seen, he reiterates his opinion of their great utility, and furnishes additional cases. These consist of examples of *hydrocele* (he states that hydrocele in boys and hydrocele of the cord in adults are always curable by simple puncture), *encysted tumours* after the evacuation of their contents, various forms of *acute* and *chronic abscess*, and *adenitis*. He objects to the use of resolvents, as being both tedious and useless. When matter is once formed, the abscess is rapidly cured by the injection. He relates, too, a case of *ranula* yielding to the employment of the injection, although simple puncture had repeatedly failed. Bouchacourt had, however, already published a similar case in the *Bull. de Thérap.* for 1843. After quoting a case of *fistula in ano* successfully treated by Van Camp at Angers, and relating one of his own, he states he has always hitherto failed in treating *fistulæ* in connection with diseased bone, but quotes cases from the veterinary practice of Professor Peroscino, in which the iodine was successfully used in fistula connected with diseased cartilage.

Dr. Borelli considers his practice in treating abscesses by this means as somewhat peculiar, inasmuch as he seeks to obtain union by the first or the second intention, according to the requirements of the case. The suppurative process being well determined, and the acute inflammation of surrounding parts repressed by catapiasms, after opening the abscess in its most dependent part, and evacuating the contents as far as possible, he introduces a small syringe through the aperture, and throws in pure tincture of iodine with some force, allowing it to remain in, when the pain is not too great, about half a minute. He waits three or four days to see whether the plastic effusion into the pyogenic cavity will effect its occlusion. This, however, is seldom the case, unless the abscess is very small and the engorgement of surrounding tissues slight. The injection, therefore, will require repetition every two or three days, according to the amount of reaction produced; and when this is in excess, emollient cataplasms are required. The author has never seen any ill effect, local or general, following the employment of the iodine.—*Omedei Annali*, vol. cxxviii. pp. 79–154.

The question of injecting the abdomen with iodine in *ascites* is no longer one of mere hypothesis. M. Dieulafoy resorted to it three times in the same subject, with the effect of producing a cure; and Dr. Leriche, of Lyon, has recently published two cases, in which a single injection after the complete evacuation

of the fluid sufficed. M. Boinet also has recently presented a memoir to the *Société de Chirurgie*, in which he has collected eighteen cases of ascites from various sources, wherein different substances, as gases, water, iodine, &c., have been injected. In fifteen of these, success followed, and only in one did the patient die, iodine seeming to be the especially preferable substance. M. Morel, reporting upon this paper, pronounced an almost unqualified opinion in favour of the practice; but MM. Vidal, Gosselin, Robert, and others protested against drawing any such hasty conclusions from cases the history of which had been imperfectly given, and have to be confronted with others in which a fatal termination has resulted, an example of which has recently occurred in Paris.—*Brit. and For. Med.-Chirurg. Rev.*, July, 1850, from *L'Union Médicale*, Nos. 17, 18, 19, and 60.

38. *Chloroform in Orchitis.*—As surgeon to a venereal hospital, M. Buisson has had ample opportunity of testing the value of the different modes of treating this painful disease; and he has come to the conclusion that, of all these, the local application of chloroform is by far the best, whether used in the simple, the blennorrhagic, or the rheumatic variety of the affection. It is chiefly in very painful cases that he resorts to it, after the use of leeches; but, used as soon as pain appears, it may even act as an abortive. A compress of several folds is wetted with the chloroform and accurately applied to the testis, covering this with oiled silk, and placing the whole in a suspensory. The first day, this is renewed every three hours, and continued the next day, if required. For some minutes after, it causes great heat and redness of the part, which is soon followed by a diminution of the original pain. The relief of pain is, in orchitis, the first step towards a cure of the disease; and with the proper combination of internal means this is accomplished in half the usual time, the chloroform being suspended as soon as an improvement is visible. The number of cases M. Buisson has thus treated now amount to about sixty, and he has found the remedy no less efficacious in what he calls ileo-scrotal neuralgia. —*Brit. and For. Med.-Chirurg. Rev.*, July, 1850, from *L'Union Médicale*, No. 4.

OPHTHALMOLOGY.

39. *Structure and Optical Properties of the Eye.*—Valee states that he has found, by a comparison of Krauss's measurements of the dimensions of the eye, that the exterior convex surfaces have exactly that geometrical form (curved surface of the fourth order, Herschel's "Treatise on Light") which produces foci free from deviations. He calls them *optoidal* surfaces; and also finds that the posterior convex surfaces are, at least, so far optoidal as the pencils of light penetrating into the eye infringe upon them. In a subsequent memoir, Valée applies to the eye the proposition that of a series of refracting surfaces of any form, which are penetrated by rays issuing from one point, one may always be so selected that all the rays are again concentrated into one focus. He is of opinion that the cornea always receives, through the muscles of the eye, the form requisite for the production of sharply-defined images on the retina. These changes of form might be smaller, the less the form of the other refracting surfaces differs from that of the optoidal surface. (*Compt. Rend.*, xxiv. p. 676; *Ibid.*, xxv. p. 501; and *Liebig's Report*, vol. i. p. 166.)

Dispersion of the Human Eye.—Matheissen is of opinion that the means for effecting the achromatism of optical impressions are arranged by nature external to the real optical apparatus of the eye. This opinion is contradicted by Valée, who states that the strong converging pencils of light emergent from the crystalline lens are brought to a point (*appareil acuteur*) by the vitreous humour, which he considers is composed of layers of different density, and that the rays of different colours are thus brought into one line. (*Compt. Rend.*, xxii. pp. 875 and 1096.) Pappenheim has measured the ratios of refraction of the vitreous humour in the anterior and posterior layer. He has found the former to be 1.3339 and 1.3343, the latter 1.3371, differences which are, at all events, too slight to justify Valée's *appareil acuteur*. (*Compt. Rend.*, xxv. p. 901. *Liebig's Report*, vol. i. p. 166.)

Defects of Vision.—Hamilton gives an account of a peculiar defect of vision. A man, twenty-five years of age, who was short-sighted, and partially blind at night, was able to recognize horizontal lines tolerably well, but could scarcely distinguish vertical ones, and was much less able to delineate them. An experiment, made with a card pierced with two holes, through which the head of a pin was observed, showed that the latter was seen by the left eye at a distance of six or nine inches, according to whether the holes were taken horizontally or vertically; with the right eye the ratio of five and a half to six and a half was observed. The defect was remedied by a cylindrical lens. (*Froriep's Notizen* [3], vii. p. 219; and *Report*, p. 167.)

Muscæ Volitantes.—Brewster has founded, on experiments with his own eye, a view respecting the *muscæ volitantes*, which differs from the explanations given by De la Hire, Porterfield, and Mackenzie. He points out as the cause, portions of the cells in which the vitreous humour is inclosed, of which the torn filaments float about in the chamber, and throw shadow and reflected light on the retina. By means of two bright lights placed before the eye, two shadows of the same fibre were obtained, by the aid of which Brewster has measured the apparent diameter of the *muscæ volitantes*, as well as the distance from the retina of the bodies producing it. According to Brewster, the muscæ occur in every healthy eye, becoming dangerous only by too great an accumulation; they are, therefore, by no means a symptom of approaching blindness from cataract or amaurosis.—*Phil. Mag.* [3], xxxii. p. 1. *Liebig and Kopp's Report of the Progress of Chemistry*, vol. i. p. 167.

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40. *Black Cataract.* By M. Petrequin.—The occasional existence of black cataract (*cataracte noire*) has not been referred to by several distinguished writers on Ophthalmology, many of them having never seen it. Others, as Freytag, Gendron, Montain, etc., refer to it without having witnessed it. Janin, of Lyons, relates three cases, occurring in his own practice. In a woman, seventy years of age, he removed a large black crystalline lens, of hard consistence, enclosed in its capsule; and which, when viewed through a light, appeared of a brown red colour. In another case, in the year 1767, he extracted from each eye a crystalline lens possessing similar characters. (*Mém. sur l'Œil*, 1772, pp. 259 and 261.) Wenzel and Pellier, Marc-Antoine Petit, Coze, Cloquet, Riberi, and others, have also met with cases.

The existence of black cataract being established, other questions arise for investigation. Dupuytren correctly remarks, "The greatest difficulty, in cases where the existence of black cataract may be presumed, is presented by the diagnosis. If the lens be totally black, it is difficult to determine whether there be cataract or not." (*Lec. Clin. Chirurg.*, t. i. p. 49.) The extreme rarity of the disease prevents us from completely observing its progress; and this is easily understood, when we reflect that Demours, Scarpa, Delpech, and Dupuytren never met with it in their extended practice, and that not one case is recorded in the *Annales d'Oculistique*. For the complete demonstration of the disease, we require careful observations of such a nature as to furnish a rigorously exact diagnosis. We require such an examination of the affection, in harmony with the modern progress of ophthalmoscopy, as will satisfy the requirements of science, and leave no important desiderata. In proportion to the rarity of our opportunities of verifying theory by practice, they ought to be eagerly seized; and this is what I have borne in mind in observing the three cases which have come under my notice within the last twelve years, in the Hôtel Dieu at Lyons. The research is not an idle one, for it is capable of important application. An error in diagnosis may lead to most mischievous results. For instance, if an amaurosis be mistaken for black cataract, as happened to Dupuytren, a useless and even dangerous operation may be performed, which may destroy all chance of restoring the function of the eye. If, on the contrary, a black cataract be mistaken for amaurosis, not only is time lost in superfluous treatment, but the patient is subjected to unnecessary suffering from blisters, purgatives, the cautery, and setons, while a simple operation might cure him. These considerations must give additional importance to the cases, which will be now related.

Case I. *Black Capsulo-Lenticular Cataract; Diagnosis; Extraction; Examination of the Lens.* M. B., of Chapelle (Saône-et-Loire), was admitted into the Hôtel-Dieu at Lyons, under my care, on the 24th September, 1847. His sight had been weak for several years, without any known cause. He never had headache, but sometimes had a sensation as of gravel in his eyes. The left eye began to be affected twelve or thirteen years before, and for the last six years the blindness had been stationary. The patient was not only unable to see her way, but could very imperfectly distinguish the presence of light. She had a black capsulo-lenticular cataract; the interior of the eye did not exhibit the brilliant reflection which is usually observed in viewing it through the pupil; the pupillary aperture, instead of presenting a brilliant velvety dark appearance, was of a dirty obscure black, not reflecting light. The patient's intellect was much impaired, so that we could not ascertain whether she saw better in the morning or evening than in the middle of the day, nor what colours objects presented at these times. The appearance and motions of the eye denoted cataract. The pupil was regular and mobile, which is not the case in amaurosis. The cataract was not of an inky blackness; but, when viewed through a lens, it appeared as a dark opaque body covered with soot, or rather as if it had been macerated in a solution of soot. In addition, a pretty large opaque triangular segment of the capsule, with its apex towards the centre of the pupil, was observed to be covered with blackish striæ, distinctly raised, when viewed in profile, from the rest of the cataract. When examined from the side, these striæ were found to be too near the cornea to allow of the supposition of their being situated in the vitreous body, or, *à fortiori*, in the retina. On viewing it in profile, a convexity was observed; but the shadow of the iris was not thrown on it, as is asserted by some observers. On holding a candle before the eye, only the first of the three images was produced. On the 30th September, I performed extraction by making an oblique incision to the exterior of the cornea, and through five-sixths of the semi-circumference of that membrane. The cataract being very large, I extended the opening with small scissors. I adopted the proceeding of Wenzel by making an incision in the lens before finishing the section of the cornea. The lens did not escape spontaneously, nor when careful pressure was made on the eyeball. But I easily extracted it with a Dupuytren's needle. There was no prolapse of the iris, nor escape of the vitreous humour; and the operation was perfectly successful.

The cataract was black, of a dull hue, voluminous, hard, and enveloped in an equally opaque and blackish capsule, as if the whole crystalline system had been immersed in a dilute solution of Indian-ink. I preserved the specimen in alcohol; and, at the present time, after it has remained two years in the liquid, the blackness has given place to a reddish-brown; the cataract is shrivelled, and has become less voluminous and less opaque than at the beginning.

Case II. *Black Cataract of Lens; Diagnosis.*—A woman, named B., had black cataract of the right eye; but the capsule did not appear affected. The disease was not of such long standing as in the former case, and the brown tint was more uniform. The usual lively dark colour could not be distinguished at the bottom of the eye. The pupil was regular and mobile, the look natural, and not dull as in amaurosis. A convexity could be recognized, which, when viewed in profile, assumed a less deep and more gray colour, without presenting any opaque point on the lens, either to the naked eye or to a lens. The black opacity was more homogeneous than in the left eye, and the loss of sight was more advanced. The patient could distinguish the day and the shades of light. A candle held before the eye gave two images. An operation was performed, at the earnest request of the patient; but she produced staphyloma by constantly applying her fingers to her eyes. This was somewhat relieved by remedies. From her irritating the eye, however, inflammation resulted, which produced deformity of the iris and opacity of a portion of the cornea. She sank into a state of senile idiocy, and left the hospital, on the 25th October, with little or no benefit.

Case III. *Double Cataract—black in the left eye, gray in the right.* J. T., aged sixty, native of Ailloz, in Savoy, was admitted, under my care, into the Hôtel Dieu, at Lyons, for double cataract. In the right eye, the cataract was

lenticular, grayish, with an amber-coloured softish and large nucleus. It had existed for six months, and the sight was more affected than on the left side, where the eye had been diseased for eight years. In the left eye, the cataract was black, but not so perfectly but that some difference of shade could be discovered on viewing it attentively through a lens. The centre was of a deeper shade than the circumference. The pupil was movable and regular, and the appearance of the eye in other respects was natural. The opacity was not very deep, and appeared, when viewed in profile, to be situated at the level of the pupil. On careful examination from the side, some convexity could be observed; but the shadow of the iris was not thrown on it. The cataract was of a dull black tint, like chimney soot; it was mostly homogeneous, but a few isolated points towards the centre appeared more opaque, which made me suppose that the lens was affected in that situation. On viewing it in profile, it assumed a more reddish and even grayish shade. The experiment with a lighted candle gave two images, of which the second was very confused, and disappeared in several places. My diagnosis was thus confirmed. A great number of medical men agreed with me that there could be no doubt of the existence of black cataract. It was remarkable that vision was less affected in this eye than in the right, for with this one the patient could see to guide himself, and could distinguish the shapes and colours of objects. He even asserted that vision had been improving in this eye for four or five months, and that it was less affected than in the early period of the disease. He also saw better on some days, and at certain times of the day, but could give no precise information on that subject. The cataract appeared hard, but less voluminous than that described in Case I.

Remarks. After describing the catoptric test, first proposed by Purkinje, in 1823, and revised by Sanson, in 1837, and showing its importance in the diagnosis of cataract from amaurosis, M. Pétrequin makes the following observations:—

The experiment was performed on our patient (Case III.) several times, in the presence of several physicians and pupils; and a comparative examination was made of several diseases of the eye. I have referred to a remarkable fact, and one which gives rise to an interesting question. The patient imagined that his vision had improved in the eye which was affected with black cataract. To explain this, it may be supposed that when the right eye was scarcely affected, its comparatively sound state caused the vision in the left eye to appear more impaired; and that latterly, when the left eye became in its turn the seat of a confirmed gray cataract, the right appeared, though there was no actual difference, to have improved in power of vision, there being not an *absolute* improvement, but merely a *relative* one, such as is often the result of erroneous comparisons.

I have also been enabled to distinguish the degree of opacity as well as the colour of a cataract. Blackness is not sufficient to entirely prevent the perception of light. Thus, I observed that vision was not entirely destroyed in two of my patients; the woman operated on by Janin in 1767 perceived objects, and distinguished the flame of a candle as an object of a deep red colour; while the patient of M. Coze, operated on in 1818, could see to walk about the roads with which she was acquainted, especially in the morning and evening. In fact, a black cataract acts simply as a blackened lens, being almost analogous to the smoked pieces of glass used for viewing the sun. These do not altogether intercept the luminous rays, but only absorb those which are too intense. The use of coloured glasses is constantly ordered to patients, in order to attenuate the intensity of the light. Their use is too general to render it necessary for me to insist further on the analogy.

The black colour of the cataract is not sufficient to explain the partial blindness which accompanies it. We must take into account the opacity of the lens. This seems to be less than in some cases of cataract; and attentive observation has proved to me that some lenticular cataracts, as they advance, become harder, and are rendered sensibly less opaque by the thickening of their constituent parts. This phenomenon cannot have escaped notice; and it is possible that it was one of the causes which contributed in Case III. to the amelioration of sight. It can also be understood that the lens in becoming

hard will become smaller, and that the diminution in volume will permit more light to pass to the interior of the eye, either through the lens or its circumference. This phenomenon was apparent in Case III. By the aid of a lens, it was easy to recognize, while the pupil was dilated, that the black crystalline lens did not entirely fill the field of vision; but that there was a crescent-shaped free space at the lower part, through which, notwithstanding its narrowness, a sufficient number of rays of light penetrated to become, by habit, adequate for vision. This may be proved by a very simple experiment. If a black bandage be placed over the eye, and a small fissure be left in it, a small quantity of light will be admitted, which will at length become sufficient for vision.

Many hypotheses have been framed to account for the colour. Rosenmüller thinks it due to melanosis; but M. Carron du Villards, who has examined a great number of horses labouring under this affection, has never found the crystalline lens black. M. Sichel refers this deep colouring of the crystalline to the different degrees of aggregation of its particles, and to the consistence of the cataract. But then the lens ought to become blacker as it becomes harder. This is not the case, for the contrary often occurs. M. Langenbeck, Jr., attributes it to the presence of manganese, which has been found in lenticular cataracts. M. Pétrequin is disposed to agree with M. Carron du Villards, that the colour is due to the predominance of black pigment, which penetrates into the lens by imbibition or endosmose, as is observed in the yellow tinge of icteric patients, and in the redness, from sanguineous exhalation or stasis, of asphyxiated children. It is very important to distinguish true black cataract from those brownish, striated, partial tints, which are called *choroidal* or *pigmentary cataracts*. This has been pointed out by M. Cartoni, of Pisa, in the notes added to his Italian edition of Richter's *Surgery*.—*Lond. Journ. Med.*, Aug. 1850, from *Revue Médicale*, Feb. 1850.

MIDWIFERY.

41. *Duration of Pregnancy in the Human Female.*—Dr. James Reid, Physician to the General Lying-in Hospital, in an interesting article (*Lancet*, July 20, 1850) has furnished some facts calculated to decide this disputed question. He gives a summary of twenty-five cases which he has collected during the last twenty years. He says that he has every reason for relying implicitly on the statements made to him by the parties. They were either cases of single women who dated from one coïtus, or of married females whose husbands had been absent for a considerable time before and after the last intercourse. In no one of them was there the slightest apparent reason for deception, and their small number in so long a space of time will evince that I have been careful to select such only as I could thoroughly depend on.

Cases dating from single Coïtus.

1. Connection only July 27; parturition occurred April 30 (276 days).
2. Catamenia terminated March 14; connection only March 18 and 20; parturition, December 20 (274 days).
3. Catamenia December 13; connection immediately after; quickened April 6; confined September 13 (274 days).
4. Catamenia November 6; connection only November 18; confined August 20 (275 days).
5. Catamenia, November 7; connection only November 12; sickness commenced on December 12; confined August 12 (273 days).
6. Catamenia January 10; connection only February 2; quickened June 16; confined October 31 (271 days).
7. Connection only November 15; confined August 16 (274 days).
8. Connection only October 18; confined July 19 (274 days).
9. Catamenia June 15; connection only July 1; confined April 5 (278 days).
10. Connection only August 5; confined April 25 (263 days).
11. Catamenia August 4; connection only August 6; no intercourse afterwards for six weeks; confined May 13 (280 days).

12. Catamenia August 9; connection only August 11; confined May 2 (264 days).
13. Connection only October 29; confined July 30 (274 days).
14. Catamenia November 7; connection only November 18; confined August 21 (276 days).
15. Connection only October 8; confined July 9 (274 days).
16. Connection only April 6; confined January 7 (276 days).
17. Catamenia August 15; connection only August 18; confined May 25 (280 days).
18. Catamenia July 17; connection only July 22; quickened, November 10; confined April 15 (266 days).
19. Catamenia January 9; connection only January 10; confined October 2 (265 days).
20. Connection only February 11; confined November 3 (266 days).
21. Catamenia May 14; connection only May 14; quickened September 10; confined February 10 (272 days).
22. Connection only February 28; quickened at nineteenth week; confined November 30 (275 days).
23. Connection only February 9; confined November 6 (271 days).
24. Catamenia March 5; connection only March 12; sickness commenced April 14; quickened July 6; confined December 24 (287 days).
25. Catamenia September 10; connection September 15, 16, 17; confined July 5 (292 or 293 days).

Two only of these cases, it will be observed, went beyond the term of 280 days, and it is requisite that I should enter more fully into the details relating to them.

In case 24, the circumstances were as follows: A young lady, under promise of marriage, unfortunately allowed liberties which caused the usual result—pregnancy. She was then deserted by her lover, who went into the country, and she saw no more of him for a time. About eighteen months after her confinement, an imprudent female friend wrote to her, informing her that the father of her child was in London, and was to be at her house on the ensuing evening, but that he was to leave town on the day after. Hoping that she should be able to induce him to aid towards the maintenance of the child, she went to her friend's house at the appointed time, March 12th, and the parties, having been left alone together for a time, intercourse again took place. The catamenial period had terminated a week previously, and at the expected time of its return she was alarmed at its absence. Morning sickness commenced on April 14th, and in the beginning of June, when she called to consult me, they were all the well marked signs of pregnancy. The movements of the fœtus were felt on July 6th, and from there being no doubt whatever, in this case, as to the precise time of conception, I felt much interest in watching the termination. December 17th was the day on which it was calculated, at the latest, that parturition would take place; but this event did not occur until the twenty-fourth, making the term of 287 days. The parties had never met after the 12th of March.

Case 25.—A married lady who had not borne a child for the previous five years. Her husband returned from the Continent on the evening of Sept. 15th (five days after the lady's catamenial period), and he left again for a long journey on the morning of the 17th. All the usual signs of pregnancy occurred in October, and throughout the whole term she confidently expected to be confined about June 21st, as the date of impregnation was so well marked. Labour, however, did not commence until July 5th.

Now in this case one objection only could be offered as to the veracity of the data, but independently of the virtuous character of the lady, my attention would not, under other circumstances, have been so frequently directed to the precise date of her husband's departure, and after five unproductive years, it would at least be an extraordinary coincidence that impregnation should have been caused by another individual than the husband at this precise time. I may add, too, that of several children which the lady now has, that which was born at the period referred to certainly bears a much stronger resemblance to the husband than either of the others.

The following are cases narrated by other authors, in which the data were sufficiently determined:—

Dr. Girdwood's—The husband arrived at home on May 31; the catamenia ought to have appeared on June 2, but did not; symptoms of pregnancy soon after were evident, and parturition took place on March 1 (274 days).—The *Lancet*, Dec. 1844.

Dr. Montgomery's—Catamenia October 18; impregnated Nov. 10, one connection; quickened January 28; confined August 17 (280 days).—*Exposition of the Signs and Symptoms of Pregnancy.*

Dr. Rigby's—Three cases of single coitus; first, 260 days; second, 264 days; third, 276 days.—March, 1846.

Dr. Lockwood's—Four cases of single coitus; first, 270 days; second, 272 days; third, 276 days; fourth, 284 days.—*American Journal*, Dec. 1847.

Single connection October 10, 1840; confined August 4, 1841 (272 days).—*American Journal of Medical Sciences*, April 1842.

Case of Anderson *v.* Whitaker, 1827. One coitus only on Jan. 8; confined Oct. 28 (283 days).

Dr. Lee—Forty one weeks after the departure of the husband for the East Indies (287 days).—*Medical Gazette*, 1831.

Desormeaux's is a very satisfactory case. The lady was deranged, and it was thought probable by her physicians that pregnancy might be beneficial. The husband visited her, therefore, at intervals of three months only, so that, if conception should take place, the risk of abortion from continued intercourse might be avoided. An exact account of these visits was kept, and when conception took place, they ceased. She was confined nine calendar months and a fortnight after the last visit. The exact number of days is not given, but, taking the shortest nine months (273 days), with the addition of the fourteen, there will be at least 287 days.—*Dict. de Méd.*, vol. x.

Dr. Dewees' case in Philadelphia; one connection; delivered nine months and 13 days after (say 286 days). In this case, the catamenia appeared as usual at the proper period, one week after the intercourse.

Dr. Beatty—291 days.—*Dublin Medical Journal*, vol. viii.

Mr. Skey's case of Cæsarian operation. One coitus took place only on April 7, 1846; labour pains commenced on Jan. 25, 1847 (293 days).

Dr. M'Ilvain's case at Charlotte, North Carolina.—Mrs. S., a lady, was visited by her husband from a distance, on July 1, 1847; he remained until the morning of the 6th, and did not again see his wife for nine months. Intercourse took place on the 1st, 2d, 3d, and 4th of July. Shortly after, symptoms of pregnancy appeared, but the lady was not confined until April 23, 1848, 293 days after the 4th of July (or perhaps 296 after the 1st).

Dr. Ashwell's—Catamenia terminated on Jan. 25; husband left a few days after, and was absent six weeks. Confined November 27 (300 days after the last intercourse). There would be 258 days from his return; but the infant, Dr. Ashwell mentions, was much larger than the other children of the lady, and bore a strong resemblance to the father.

Velpeau gives a case (*Art. des Accouch.*) of 310 days. At the supposed fourth month of this gestation, M. Velpeau affirms that he distinctly felt both the active and passive movements of the fœtus.

It will be seen, therefore, by the foregoing cases, that there are well authenticated instances in which the period of gestation has been extended beyond the usual term. In the cases of *single intercourse*, 293 days form the longest period or eighteen days beyond what I have deemed to be the usual average duration of pregnancy in the human female. Now it is a coincidence with the results of Lord Spencer's tables, that of the 764 cows, whose data were so accurately noted, the greatest excess beyond the average term of gestation in them (285 days) was also eighteen days. In the case related by Dr. Ashwell, the exact day of impregnation is not given; it is stated that the husband left a few days after the catamenial period, and I have put this down as six days after, but as it is the only case which extends to 300 days, some perhaps may doubt the exactness of the husband's statement as to time.

Velpeau's case is without dates and rests solely on the fact of the fœtal movements being felt at the fourth month; might they not have been appreciable before that period?

With a view to ascertain the experience of those who were most likely to have paid particular attention to this subject, I applied to upwards of forty of our

most eminent obstetric practitioners in London, Dublin, and Edinburgh, and I have here to acknowledge the great kindness with which they have responded to my application.

The large majority express a firm conviction as to the occasional extension of the usual period by a few days beyond 280.

Several like myself have met with one or two only of protracted gestation, out of many hundred cases, on the exact data of which they could rely.

Others, who had not kept notes of their cases, could not positively speak to facts, but had no moral doubt as to the period being extended, in some instances.

Some who have had extensive experience in private and hospital practice, state that they have never met with an undoubted case of protracted gestation; whilst two affirm that it is their strong conviction that no case ever exceeds the 280th from conception; and one, that it is never carried beyond the ninth calendar month.

After fully considering the evidence we possess, as to the duration of pregnancy when calculated from a single coitus, the only positive data as to its commencement, Dr. Reid, as much reliance has been placed on other data, shows that they are not to be depended on. He gives also the following table, the result of 500 cases in which the exact number of days intervening between the last day of menstruation and that of parturition is shown. With the exception of about fifty, they were private cases, in which the data were most correctly kept; and the others were selected from upwards of 1000 hospital and dispensary cases, presenting an equal certainty as to date, in females superior to the usual class of hospital patients.

	Days.	Cases.	
37th week.	252	4	23
	253	1	
	254	3	
	255	1	
	256	2	
	257	4	
	258	4	
	259	4	
38th week.	260	6	48
	261	5	
	262	3	
	263	9	
	264	10	
	265	5	
	266	10	
39th week.	267	9	81
	268	13	
	269	5	
	270	13	
	271	12	
	272	13	
	273	16	
40th week.	274	21	131
	275	20	
	276	16	
	277	16	
	278	22	
	279	21	
	280	15	
41st week.	281	18	112
	282	25	
	283	14	
	284	15	
	285	14	
	286	15	
	287	11	
42d week.	288	17	63
	289	8	
	290	9	
	291	14	
	292	6	
	293	3	
	294	6	
43d week.	295	2	28
	296	5	
	297	8	
	298	6	
	299	1	
	300	2	
	301	4	
44th week.	302	1	8
	303	1	
	304	2	
	305	1	
	306	0	
	307	1	
	308	2	
45th week.	309	0	6
	310	1	
	311	1	
	314	1	
	315	2	
	316	1	

Total, 500 cases.

In the case which occurred 314 days after the cessation of the catamenia, I find it noted that quickening did not happen until the sixth month—proving, in my opinion, that conception had taken place later than had been thought. Had minute investigation been made, at an early period, into the remaining five cases, which went beyond the forty-fourth week, it is most likely that similar facts might have been observed.

It will be seen that the above table agrees with that of Dr. Merriman (114 cases) in showing that the greatest proportion of women complete the period of gestation in the fortieth week after the cessation of the catamenia, and a very considerable number in the forty-first week.

In Dr. Murphy's table of 182 cases, the numbers born in the thirty-ninth and fortieth weeks were about equal, being twenty-four and twenty-five, whilst the greatest proportion (thirty-two) were in the forty-first week, and twenty-five in the forty-second week—equal to those in the fortieth.

In my own tables, the 282d day was that on which the largest actual proportion of the patients were delivered; but the number from the 274th to the 282d day run so near to each other that we must rather take that as the average period. If we allow of a range of from two to six days after menstruation, as elapsing probably before conception takes place, it will then appear that about the thirty-ninth week after impregnation is more probably the ordinary duration of pregnancy; and this will coincide with the results of the table taken from cases of single coitus.

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42. *Mucous Membrane expelled from the Uterus during Menstruation.*—M. Lebert described to the Biological Society of Paris (April 1850) a membranous sac, of the shape and size of the cavity of the uterus, expelled during a paroxysm of painful menstruation. This substance measured four centimetres (=1.74 Eng. inch) in length, and from two and a half to one centimetre (=.983—.393 Eng. inch) in breadth, and about one centimetre (=.323 Eng. inch) in thickness. It presented three apertures corresponding with the os uteri and orifices of the tubes. Internally, its surface was lined with pavement epithelium, the cells of which were from an eightieth to a ninetieth of a millimetre in diameter, enclosing an ovoid nucleus, and these again containing nucleoli.

M. Lebert considered that this pathological specimen lent confirmation to the opinion of those physiologists who consider that menstruation is normally attended with the formation and expulsion of a false membrane, analogous to the decidua of pregnancy.—*London Med. Gaz.*, Aug. 1850.

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43. *Menstruation in Relation to Pregnancy.* By Prof. Dubois.—Conception may take place in a woman not yet arrived at the age at which she ought to menstruate. There are, in fact, many women who do not menstruate till the seventeenth, eighteenth, or nineteenth year. Such women may become pregnant at that time of life, although they have never menstruated. M. Dubois has seen a woman become pregnant two years after the cessation of the menses. The woman, finding her abdomen enlarging, entered the medical department of an hospital. The physician under whose charge she was had so little idea of the woman's being pregnant, that he delivered a clinical lecture on the case, as one of ovarian dropsy. On making an examination of the case, M. Dubois easily made out the pulsation of the fœtal heart. In fact, labour very soon supervened.

The menses may be suppressed physiologically, and yet pregnancy take place. Thus, it is not rare to see nurses become pregnant before menstruation has reappeared. We find, also, that women who are extremely irregular, who, for example, menstruate only once or twice a year, become pregnant: although, in general, this state is one very unfavourable for conception.

Various diseases and changes in habits may derange the menstruation, and give rise to the idea of pregnancy. This error occurs frequently, chiefly to persons anxious to become in the family way. Nothing is more common than to find the menses suppressed for some time after marriage. It is also very frequently observed that women leaving the country to reside in the town suffer from suppression. This may be said to occur habitually in young women coming from the country into domestic service in Paris.

In other cases, the menses, after having been suppressed for three or four months, reappear suddenly, with some profuseness. This is sometimes taken for the occurrence of abortion, when it is merely the recurrence of the menses after they have been suppressed, in consequence of some change in the habits of the female.—*Monthly Journ.*, July, 1850, from *Journal de Méd. et de Chirurg.*, May, 1850.

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44. *Spurious Pregnancy—its frequency and nature.*—Dr. Simpson, in a communication read to the Edinburgh Obstetrical Society, showed how frequent and marked the phenomena of spurious pregnancy were among domestic animals, as in the bitch, cow, &c. In these animals, the phenomena of pregnancy often occurred both subsequently to unsuccessful sexual intercourse, and also frequently after seasons of heat, but during which there was no intercourse with the male. Occasionally the phenomena of pregnancy in them were suddenly interrupted, and terminated a short time after their commencement; sometimes, however, they went on increasing to the full term of pregnancy, and ended in a series of puerperal phenomena, as the presence of milk in the mammæ, &c. &c. Dr. Simpson adduced a variety of facts, showing the great frequency with which the same phenomena of spurious pregnancy occur in the human female in a more or less marked degree, and how these phenomena are often mistaken for dyspepsia, hysteria, and various anomalous and perplexing ailments. And as these phenomena sometimes occur in the virgin state among the lower animals, so do we find them also sometimes occurring in the unmarried human female, and giving rise to symptoms that have hitherto defied any nosological arrangement. Lastly, he spoke of the great use of aperients combined with tonics, and with nux-vomica and galbanum in the subjugation of the phenomena of spurious pregnancy.—*Monthly Journ. Med. Sci.*, July, 1850.

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45. *Spurious Pregnancy followed by Spurious Parturition.*—Dr. Keiller communicated to the Edinburgh Obstetrical Society the particulars of a case in which the symptoms of spurious pregnancy, and subsequently those of spurious parturition, existed to such a remarkable degree as to induce the patient and her friends not only to prepare for the expected accouchement, but, when the supposed full time arrived, to believe in the actual commencement and continuance of a very painful labour, which ultimately became so protracted as to demand, according to the opinion of the attending accoucheur, the immediate and unavoidable performance of the *Cæsarian section!*

Dr. K., having been requested to visit the case for the purpose of satisfying the friends of the patient as to the propriety of having recourse to such an extreme mode of accomplishing the delivery as that which had been seriously proposed to them by the individual in attendance, was astonished to find, on making an examination, without any misgivings as to the parturient condition of the patient, that all the supposed symptoms of pregnancy and of parturition had been, and were still, *entirely spurious*, the uterus being evidently unimpregnated!

This startling opinion was anything but credited at the time by the females present, who altogether ridiculed the idea of the case not being one of "*real labour*," as the motions of the child had long been not only distinctly felt, but even seen "through the walls of the much distended abdomen," the patient herself insisting that the child's movements were so violent that she felt "as if it would leap through her side!"

The result of the case, however, sufficiently proved that her painful attempts at delivery could not possibly have been rendered less futile by the *Cæsarian section*, or any other *obstetrical* aid, as *pregnancy never had existed!*

The patient remained for a considerable time afterwards under the immediate care of Dr. Keiller, who stated that he considered the entire group of anomalous symptoms (which she presented in a very singular degree, and which he purposes recording) in a great measure referable to hysteria.—*Monthly Journ. Med. Sci.*, July, 1850.

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46. *Cold as an Excitement of Fœtal Movements.*—Dr. Simpson stated to the Edin-

burgh Obstetrical Society a variety of observations and experiments showing that, contrary to the common opinion, the mere application of cold (as a cold hand, &c.) to the surface of the abdomen of a pregnant women, had not the effect of exciting motions in the fœtus. The application of portions of ice, even of the size of the hand, had no such property.—*Monthly Journ. Med. Sci.*, July, 1850.

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47. *Hemp as an Oxytocic.*—Dr. Simpson stated to the Edinburgh Obstetrical Society that, in the early part of the winter session, he had given Indian hemp (Cannabis Indica) in several cases of tedious labour, with the view of ascertaining if it possessed any oxytocic effect (like ergot of rye) in increasing and exciting the parturient action of the uterus. He had been induced to try the effects, if any, of Indian hemp during labour, in consequence of Dr. Churchill stating that it possessed powers similar to those of ergot of rye in arresting hemorrhage, when dependent upon congested states of the *unimpregnated* uterus. In the few cases of labour in which it was tried, parturient action seemed to be very markedly and directly increased after the exhibition of the hemp; but far more extensive and careful experiments would be required, before a definite opinion could be arrived at relative to its possession of oxytocic powers, and their amount.—*Monthly Journ. Med. Sci.*, July, 1850.

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48. *Oil of Turpentine in Uterine Hemorrhage.*—The number of the *Provincial Med. and Surg. Journal* for July 24th contains an epitome of observations of Mr. John Griffith, of Hereford, relative to the efficacy of large doses of oil of turpentine in arresting uterine hemorrhage. He gives the article in the dose of an ounce made into a draught with half an ounce of sweet almonds. This may be repeated in five minutes, if the symptoms are urgent.

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49. *Cæsarian Section.*—Prof. Simpson read (June 5th, 1850) to the Edinburgh Medico-Chirurgical Society a case of Cæsarian section recently performed by Mr. Harley in the Edinburgh Maternity Hospital. The mother died from effusion into the air-passages, consequent upon disease of the heart. The Cæsarian operation was had recourse to by Mr. Harley, a few minutes after her death, and the child was now doing well.

The Professor also read at the same meeting another case of Cæsarian section, performed upon a living mother by Dr. Nimmo of Dundee. In this case there was extreme deformity of the pelvis. The mother died a few days after the operation. The child was saved. The pelvis, a fine example of malacosteon, was exhibited to the Society.

The President remarked that a woman whose osseous system was in the condition indicated by the pelvis on the table was certainly a very unfavourable subject for any surgical procedure. He agreed with Dr. Simpson that great credit was due to Mr. Harley for the promptitude and resolution which he had shown in operating on the patient in the Maternity Hospital. It was remarkable that the mothers who had had Cæsarian section performed in this country had all died; yet there were records of cases, in which the abdomen had been torn open by a cow's horn, and in which both child and mother had recovered.

Dr. Simpson spoke of the rarity of the Cæsarian operation in Scotland. It had not been performed on the living mother in Edinburgh for fifty years, nor in Dundee since 1823. Dr. S. alluded to two cases in which nature had accomplished delivery by rupture of the uterus, and subsequent laceration of the abdominal parietes. There were two cases on record in which the abdomen had been torn open, and the child turned out by goring by the ox's horn; a third occurred in India, near the military station where his friend Dr. Balfour happened at the time to be; and a fourth had been mentioned by Dr. Thatcher to Dr. S., as having occurred in the King's Park, in Edinburgh. In all these four, the mothers recovered. The successful result of such cases, and under such rude surgery, showed that the soundness of the constitution of the patient formed the most important element in the result. It had failed often, as in Dr. Nimmo's interesting case, when performed with all surgical tact and care, but when, as in this case, the constitution of the patient was unsound, and previously

broken by the preceding labour. He had lately, when at Bonn, an opportunity of seeing a woman who had been thrice operated upon by Professor Kilian, and who looked forward with great seeming indifference to the probability of a fourth operation being requisite.

Dr. THATCHER had had considerable experience of the operation as performed after the death of the mother. It had been, he thought, too much neglected after cases of sudden death; indeed, he considered it a duty to perform it in all such cases, if pregnancy was advanced to the seventh month, and if, from stethoscopic or other evidence, any sign of the vitality of the child was obtained. That the child was to a certain extent endowed with a vitality independent of the mother, was quite certain, and was shown by the motions observed in utero after the death of the mother, and by the successful result of cases in which the section was performed in such circumstances. In three of the cases in which he had himself operated, the child lived for two or three hours. The operation might be the means of saving many lives. In the case alluded to by Dr. Simpson, where the operation was accidentally performed by a cow's horn, the child was saved as well as the mother.

Dr. W. T. GAIRDNER referred to Buffon's experiments upon the extreme tolerance of asphyxia, observed in animals just born.

Dr. SIMPSON said that the tolerance of injuries decreased directly as the age of the child increased. In corroboration of this doctrine, he instanced the extraordinary spontaneous amputations which take place in utero, and expressed his belief that, in early fœtal life, the head itself was sometimes destroyed by inflammation and the process of spontaneous amputation, without the existence of the fœtus being necessarily compromised. The experiments of Buffon had been generally confirmed by Edwards, and it was quite clear that newly-born animals could bear a want of respiration for a considerable time. Baillard, who made many accurate observations in the Hôpital des Enfans Trouvés, never observed symptomatic or traumatic fever in a child under a month old. The nearer the condition of the fœtus was to that of the lower animals, the greater was its tolerance of injuries, and its power of repairing them. Some years ago, he showed to the Society several cases of intra-uterine amputation of the arm, in which there was an attempt at the regeneration of the hand, such as is seen after injuries of the extremities in amphibia, &c.—*Monthly Journ. Med.*, July, 1850.

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50. *Skoda on the Causes of Puerperal Fever—Experiments on Animals.*—In a paper read before the Medical and Chirurgical Society of London, on November 28th, 1848, and published in volume xxxii. of the Transactions of that Society, Dr. Routh brought before the notice of the British medical public the discovery, by Dr. Semmelweis, of Vienna, of the cause of the great frequency of puerperal fever in the lying-in institution of that city—viz., the introduction of poisonous animal matter into the uterus by the hands of the accoucheurs. And he also referred to the success which had attended the preventive means recommended by Dr. Semmelweis, of washing the hands with chlorinated water after making post-mortem examinations. [See number of this Journal for April, 1849, p. 509.] Dr. SKODA, of Vienna, has also examined the subject, and has laid before the Academy of Sciences of that place the result of his investigations, which have been published in the *Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien* for February, 1850. The first part of his communication refers to the circumstances which led to the discovery made by Dr. Semmelweis; and his remarks are confirmatory of what has already been laid before the profession in this country by Dr. Routh.

The second division, of which we shall give a translation, refers to the measures necessary for ascertaining the correctness of the results at which Dr. Semmelweis has arrived. On this subject, Dr. Skoda writes as follows:—

When the washing of the hands in chlorinated water had been for some time in use, with apparently highly successful results, Dr. Semmelweis communicated his idea to Professor Rokitansky, myself, and other physicians of the hospital. We did not doubt for a moment that his view would prove correct; and I lost no time in making the discovery known to the Director of Medical Studies, in the expectation that a committee would be appointed to inquire

into such an important fact. But my representation appears to have been merely made known. A more probable opportunity of bringing the matter publicly into notice was the great number of deaths in the Lying-in Hospital at Prague, which were probably due to the same cause as those at Vienna. I therefore recommended the use of chlorinated water in Prague; but as it seemed to be the general opinion in that place that puerperal fever was propagated by epidemic influences, the means recommended by me seem to have had little or no trial.

Dr. Semmelweis applied to the obstetric professors in foreign countries to test the correctness of his observations; but the only precise answer received was from Kiel. Dr. Michaëlis, the superintendent of the lying-in institution of that place, reported on the 18th March, 1848, that the hospital had been closed from the 1st July to November, 1847, on account of the great mortality which prevailed. At the latter period, it was again opened, and the disease broke out as severely as before. In December, 1847, Dr. Michaëlis heard of the discovery of Dr. Semmelweis, and forthwith instituted the use of chlorinated water. Subsequently to that period, there was only one case of puerperal fever; and that one is attributed by Dr. Michaëlis to the use of a catheter which had not been properly cleaned. On the other hand, Professor Kiwisch, of Würzburg, stated that he had frequently attended pregnant and puerperal women immediately after making *post-mortem* examinations, without observing any untoward results.

At my suggestion, a commission of the professors of the college was appointed to examine into the following questions:—

(*a*) From the construction of tables, in which were given the name of each assistant or student attending on the cases, to determine whether the number of cases of puerperal fever bore any relation to the employment of the assistants and students in the dead-house. (*b*) To examine into the so-called street-births (*Gassengeburten*). When a female enters the hospital soon after being delivered, no further manual examination is made, except for the purpose of removing the placenta, or of treating some disordered condition of the generative organs. If the opinion of Dr. Semmelweis be correct, these cases should present but few examples of disease. (*c*) To inquire of the lying-in institutions in Austria, and elsewhere, whether the mortality is less where there can be no source of infection from the handling of dead subjects. (*d*) To make experiments on animals. My suggestion was adopted by a great majority of the professors, and a committee was appointed, but the government forbade the proceeding of the committee. Under these circumstances, I requested Dr. Semmelweis to undertake the experiments on animals. These were accordingly performed on rabbits.

Experiment I. On March 22, 1849, a female rabbit, which had been delivered for a quarter of an hour, was operated on. A brush, dipped in some ill-coloured exudation from a case of endometritis, was introduced into the cavities of the vagina and uterus. The animal appeared well up to the 24th April, when it died.

Post-mortem appearances. The plicated mucous membrane of the cornua uteri was covered with a dirty reddish-gray fluid exudation. The left pleural cavity contained some fluid; the lower lobe of the lung on that side was covered with a pale yellowish false membrane. Its parenchyma, as well as that of the posterior and lower third of the upper lobe, was in a state of gray hepatization; the rest of this lung, as well as the right, contained air, and was of a vermilion-red colour. The heart was enveloped in a finely-villous layer of pale yellow exudation, and there were a few drops of fluid matter.

Experiment II. On the 12th April, a female rabbit was treated in a similar manner to the last, about twelve hours after having been delivered of five young ones; and the application was repeated daily. On the 14th April, the animal expressed pain on the introduction of the brush, the uterus contracted with force, and some thick yellowish-white exudation was pressed out. On April 17th, the animal appeared decidedly ill; on the 22d, diarrhœa set in; and the animal was found dead on the 24th. The brush had been introduced once daily up to the time of death.

Post-mortem appearances. The peritoneal cavity contained false membranes, gluing together some of the intestinal convolutions. There was a stiff yellow exudation on the mucous membrane and in the tissue of the vagina and uterus; the cornua of the uterus were moderately distended, and filled with a dirty reddish-gray exudation. The colon contained some follicles in a state of suppuration; its mucous membrane presented spots of the size of a lentil, partly suppurated, partly infiltrated with yellow exudation: each of the spots was surrounded with an injected vascular area. The lungs were of a clear vermilion red; the upper lobe of the left lung contained a condensed spot, of the size of a bean, infiltrated with blood, and having a purulent point in the centre.

Experiment III. On the 15th April, a female rabbit, which had been delivered about ten hours, was treated in the same way: and the application was repeated daily up to the 21st. On the 17th, the animal gave signs of pain, and expressed some purulent exudation from the uterus. On the 26th, diarrhœa occurred.

Post-mortem appearances. The abdominal cavity contained a moderate quantity of fluid and membraniform exudation, gluing together some of the intestinal convolutions. The mucous membrane of the vagina and uterus was covered and infiltrated with a yellow intimately adherent deposit; the cornua of the uterus were much distended, and filled with a reddish-gray dirty matter. The liver presented some spots of the size of lentils, infiltrated with a purulent exudation. Near the termination of the *processus vermiformis*, the mucous membrane of the colon presented a spot larger than a lentil, surrounded by an injected area of vessels; it was ulcerated, and covered with a pale yellowish exudation.

Experiment IV. On May 24th, a strong rabbit was operated on, an hour after being delivered of five young ones. The brush was dipped in the blood (mixed with water) of a man who had died of marasmus thirty-six hours previously. On the 25th, it was charged with some pleuritic exudation; and on the 26th and 27th, with some exudation from the peritoneum of a tuberculous patient. The brush was not again introduced. The animal continued apparently in perfect health, and again brought forth young on the 24th June.

Experiment V. On the 2d of June, some of the peritoneal exudation which had been used in Exp. IV. was applied to a rabbit about twelve hours after delivery; and the application was repeated on the 3d, 4th, and 5th of the month, after which it was discontinued. The animal appeared in good health. On the 28th, it again brought forth young; and the brush was again applied on the 29th and 30th, charged with pleuritic exudation. The animal continued well, and was killed on the 17th July in performing another experiment. No alterations referable to pyæmia were observed on necroscopic examination.

Experiment VI. On the 10th of June, some purulent exudation from the pleura of a man was introduced into the uterus of a rabbit, some hours after delivery; and, from the 11th to the 30th, the brush was dipped in some peritoneal exudation from a man who had died of typhus. The animal continued well, and again brought forth young on the 13th July. On the latter day, the brush was again introduced, and the application was repeated daily up to the 24th. The animal became lean, had diarrhœa, and was found dead on the 30th.

Post-mortem appearances. The pericardium contained a few drops of flocculent serum. There was a dirty whity uneven vegetation of the size of a pea, on the tricuspid valve, pressing against the *conus arteriosus;* and a similar body was situated on the free margin of one of the divisions of the valve, intimately united with the endocardium covering its muscle. The inner surface of the right ventricle was covered with a yellowish-white granular false membrane. The peritoneum contained some pseudo-membranous and fluid exudation. In the periphery of the liver, near the lower surface, there was a spot of the size of a pea, infiltrated with a stiff yellowish deposit. In the uterus, several veins of remarkable thickness, between the body and the right cornu, were found filled with a stiff yellow exudation.

Experiment VII. On June 16th, some hours after parturition, the brush was applied, charged with pus taken from an abscess between the ribs of a person who had died of cholera. The operation was repeated daily up to the

3d of July; but the animal remained well, and was again delivered on the 18th of that month. The experiment was now modified, so as to avoid the chance of producing mechanical irritation with the brush. The fluid was injected by means of a gonorrhœa syringe, with a tube three inches in length. Soon after the injection, the animal again ejected the fluid. It was daily repeated up to the 24th of July, and the animal was found dead on the 29th.

Post-mortem appearances. Both pleural cavities contained some thickish yellow exudation. In the peritoneum, there were two ounces of exudation, partly coagulated in the form of a membrane. The uterus was normal, but pale.

Experiment VIII. On June 24th, the same animal was operated on, as had been the subject of Experiment IV. The brush was applied daily until July 8. The animal wasted away, was seized with diarrhœa, and died on the 25th.

Post-mortem appearances. The peritoneum contained some yellowish exudation. Closely adhering to the posterior wall of the uterus, there was a thin dirty-yellow false membrane; the cornua contained some dirty reddish-gray fluid exudation; and, on the border between the vagina and uterus, corresponding to the orifice of the urethra, there was a superficial sloughed spot of the size of a bean, infiltrated with purulent exudation. The ulcer in this situation had uneven undermined edges, and the base was covered with a layer of exudation. The substance of the vagina, for an inch in length, was infiltrated with a deposit of a line in thickness.

Experiment IX. On August 8th, some exudation from the peritoneum of a male subject was injected, a few hours after the animal had brought forth young. It was soon rejected; and the operation was repeated daily until the 15th. The animal appeared ill on the 13th, became lean, and was found dead on the 20th.

Post-mortem appearances. There was some flocculent exudation in the peritoneum, and numerous yellow inflammatory spots, mostly of the size of hempseeds, on the periphery of the liver. On the mucous membrane of the posterior wall of the uterus, there was an excoriated spot of the size of a lentil; the substance of the organ was infiltrated with yellow exudation as far as the peritoneum. The right cornua was so much infiltrated as to be of double its normal size. There was some free exudation on its mucous membrane. The veins in both broad ligaments were filled with exudation.

Remarks. It is scarcely necessary to mention that the changes found in the bodies of the rabbits were the same as those which occur in the human body as a consequence of puerperal disease and of pyæmia in general. It might be objected to these researches that in them a greater quantity of putrid matter was employed, and that it was, in eight of the experiments, introduced for several days in succession, while, on the other hand, the quantity of putrid matter remaining on the hands, when they have been washed—as is always the case—after making *post-mortem* examinations, can be but very small. But this objection does not appear to me to possess much weight, seeing that the operation of putrid matter on the blood does not depend on its quantity; for infection not unfrequently takes place through a wounded part, which is almost imperceptible from its minuteness. It would be judicious, in order to remove all doubt, that more extensive and varied experiments on animals should be performed.—*Lond. Journ. Med.*, July, 1850.

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51. *Chloroform in Puerperal Convulsions.*—Dr. Keith gives the following particulars of a case of puerperal convulsions treated by chloroform. A lady, about the end of the seventh month of her first pregnancy, was suddenly seized with a convulsive fit, after suffering more or less for some days from headache, and slight feverish symptoms. The first fit occurred three hours before Dr. K. saw her, and in the interval she had three others. She had been bled, and the bowels had been freely opened. The fits ceased for a time, but after four hours they again recurred, and four followed each other in the course of less than an hour without any return to sensibility during the intervals. The bleeding was repeated very copiously, but seemed to have no effect in stopping the fits, or even in rendering them more moderate. Just as the fourth fit was coming on, the chloroform was administered. It had an immediate effect in restraining the convulsive

efforts, and she soon became perfectly quiet. Dr. K. had ascertained, on first seeing the patient, that the os uteri was quite shut, and there had been no sign of labour coming on up to this period. Now, however, from the motions and expression of countenance, while she was still under the chloroform, he was led again to examine as to the state of the uterus, and found that regular contractions had come on. The action of the chloroform was kept up, the labour went on steadily, and in six hours she was delivered of a still-born fœtus, without any recurrence of the convulsions. She slept for nearly an hour after the termination of the labour, when she awoke in a confused state, but perfectly rational, and almost free from headache. She made a most favourable recovery; indeed she had not a single bad symptom from the time that the chloroform was administered. The urine was highly albuminous, becoming almost solid on exposure to heat. The coagulability gradually went off, and after a fortnight there was scarcely a trace of it.—*Monthly Journ. of Med.*, Aug. 1850.

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52. *On the Use of the Speculum in the Diagnosis and Treatment of Uterine Disease.* By Robert Lee, M. D.—[We invite especial attention to the following abstract of a paper on this subject, read before the Royal Medical and Chirurgical Society, on the 28th of May last, with the report of the discussion to which it gave rise. Fully admitting, as every one must do, the value of the speculum in the diagnosis and treatment of uterine disease, it can no longer be conceded that this and other uterine instruments have been grossly abused by individuals for very unworthy views. Several years ago, we had occasion to denounce a practice advocated by a physician of this city, of introducing large bougies for the treatment of excessive sensibility of the vagina, and we are happy to believe that, though the author may have derived pecuniary advantage from the practice, he has found no imitators. The following exposition will doubtless tend to restrict the use of the speculum to proper cases, and also correct some important errors in uterine pathology.]

"The author commences this paper by observing that the *speculum matricis* was said by Ætius to have been invented in the days of the Emperor Domitian, but that it must have been known to the ancients at an earlier period. In 1818, a bronze instrument, consisting of three branches, two handles and a screw in the centre, was dug out of the ruins of Pompeii, which has been preserved in the Museum at Naples, and of which there are a description and representation in Vulpes' work, which, through the kindness of Dr. Greenhill, of Oxford, was placed on the table of the Society. This instrument is called *speculum magnum matricis*, and the author observes that there can be no doubt that it was intended to bring the os uteri into view, and is probably one of the most rare and perfect bivalve speculums that has since been invented. Allusions are then made to the specula of Avicenna, Ambrose Paré, Allman, and Johannes Rufficus, some of which were not uterine specula, but midwifery instruments. The author then states that, in 1801, Dr. Récamier, of Paris, began to treat ulcers of the uterus and vagina with topical applications, like those of the throat. By means of a slender tin tube, he applied to the ulcerated surfaces various simple substances, as mel. rosarum and syrup of carrots, and to these he states that he owed their marked amelioration. In the year 1816, Dr. Récamier enlarged the diameter of his conical tube, that the morbid parts in cancer might be brought more completely into view, and cauterization employed. Of this treatment the most favourable results were likewise published, although its total inefficacy was soon demonstrated. 'The cruel practice of extirpating with the knife' the whole or portions of the cancerous or supposed cancerous uterus now began to prevail, and became, both in Paris and London, the source of great popularity and gain to some individuals, and most flattering reports of the results were published. In the Memoir on Amputation of the Neck of the Uterus, presented by M. Lisfranc to the Institute of France, in 1834, the author stated that, of ninety-nine operations for cancer of the uterus, eighty-four had been successful. The statements made in this Memoir are now universally disbelieved; and no man possessed of the most slender stock of sound pathological knowledge, and of the ordinary feelings of humanity, would, at the present time, propose to extirpate the whole, or any por-

tion, of a cancerous uterus. In the hands of M. Recamier and M. Lisfranc the speculum led only to barbarous and useless cauterizations and operations. The instrument soon came to be extensively employed in the investigation of venereal diseases in the prisons, hospitals, and dispensaries of Paris, and many morbid appearances, very vaguely defined, were reported to have been discovered, by the aid of the speculum, which otherwise must have escaped detection. The speculum then became an instrument of police, and the sanitary laws of the principal cities on the Continent were regulated by the information thus supposed to have been obtained. The method of conducting the examination of the prostitutes with the speculum is then described, and it is stated that some of the most eminent surgeons in Germany and France conducted these public examinations, and endeavoured to perform the difficult and indelicate task of separating the clean from the unclean. The object of the author in this communication is stated to be, to give concisely the results of his observation, during the last twenty-three years, on the use of the speculum in the diagnosis and treatment of uterine diseases, believing that at the present time it is equally important to the medical profession, and to society at large, that the legitimate use and real value of the speculum in practice should be accurately defined and made known. In the two great classes of organic diseases of the uterus—malignant and non-malignant, and in all the displacements of the uterus, he says he has derived little or no aid from the speculum, in their diagnosis and treatment. Several cases of ulcerated carcinoma are then related, in which the speculum and ignorance of uterine pathology appeared to have led to the commission of the most grievous mistakes. The author then proceeds to give a sketch of uterine disease before the middle period of life, and observes that an examination of the physical condition of the uterus, in unmarried women, either with or without the speculum, he has always refused to make, even when requested to do so, unless pain, severe and almost constant, in the region of the uterus, existed; leucorrhœa or hemorrhage, which did not yield to treatment; and where the symptoms did not make him strongly suspect the presence of some displacement or organic disease. In cases of obstinate leucorrhœa he has often employed the speculum, in married women, after he had failed to detect the existence of organic by the ordinary mode of examination. The appearances observed in these examinations are then minutely described, and the fact stated, that the author had never seen ulceration of the os and cervix uteri, in such a case, which was not of a specific character, especially scrofulous and cancerous. The lamentable effects of applying potassa fusa to the os and neck of the uterus are then given, in the histories of several cases. The following most important statistical statements were then given by the author: 'In the year 1832,' he says, 'my colleagues at the St. Marylebone Infirmary—Dr. Hone, Dr. Sims, Mr. Stafford and Mr. Perry, late secretary of the Society—at my request, desired that the uteri of all the women who died in the wards should be carefully examined, and that they should be preserved for my inspection when any morbid appearance was observed. From 1017 post-mortem examinations of females of all ages, made by Dr. Boyd (after deducting those of children and others, in which special mention is not made of the uterus), there were found 708 where either the state or weight of the uterus was noted. In thirteen of these there was congestion or inflammation, which had no specific character, and in some the inflammation was limited to the fundus, and could not have been detected unless the uterus had been removed or cut open. In at least three there were enlargement and induration, which did not appear to have any specific character, and in two there was extreme wasting; twenty-four were puerperal cases, thirteen dropsy of the ovaries or Fallopian tubes, in thirty-one fibrous or bony tumours, and in twenty-one, cancer.' 'My impression is,' adds Dr. Boyd, in the same report, 'that ulceration of the neck or mouth of the womb is an exceedingly rare disease; else I must,' he says, 'have observed it, having cut up and weighed many hundreds; it could scarcely have escaped my notice.' Dr. Allen, the present resident medical officer at the St. Marylebone Infirmary, has held the office about twelve years, and he states to me that he has examined, or been present at, the examination of the bodies of more than 1000 adult females, and of

these he does not believe that he ever saw more than twenty examples of ulceration of the os uteri of any kind, scrofulous or venereal, excluding cases of ulcerated cancer of the uterus, which were known to exist before death. Dr. Allen further states that he has observed in some cases a portion of the mucous membrane of one lip slightly abraded; this he has seen occasionally, but not often. Mr. Prescott Hewett was six years curator of the Museum of St. George's Hospital, and conducted all the post-mortem examinations. He states that during that time he could not have examined fewer than 600 uteri, and very seldom, if ever, did he meet with anything which could be called ulceration of the os and cervix uteri, independent of scrofula and cancer. Mr. George Pollock held the same office for three years, during which time he examined the bodies of 300 women, and in every case the uterus was cut open and examined. In four cases, uteri ulceration was observed, but three of these were scrofulous patients, and scrofulous ulcerations existed in other organs. In the fourth case, the ulceration must have been cancerous, as it involved the vagina extensively, as well as the os uteri. Mr. Hewett and Mr. Pollock did not, therefore, observe a single example of simple ulceration of the os and cervix uteri in the 900 uteri they examined, which confirms the accuracy of the opinion given by Dr. Boyd, that ulceration of the neck or mouth of the womb is a very rare disease. Mr. Gray succeeded Mr. Pollock at St. George's Hospital, and he examined 180 uteri. Distinct ulceration of the os and cervix was only observed by him in three uteri, and the nature of the ulceration in these three cases was not determined with certainty. Mr. Gray states to me, further, that redness, slight abrasions, and granulations were sometimes, but not frequently, observed. Neither in the living nor in the dead body, says the author, have I ever seen ulceration of the os and cervix uteri, except of a specific character, and especially scrofulous and cancerous; but I have met with a considerable number of cases in which it had been affirmed by others to exist, after deliberate and repeated examination by them with the speculum, where I ascertained that ulceration did not exist in the os and cervix uteri, nor disease of any kind. Cases are then given in which this gross mistake had been committed, and the paper concludes with a remarkable case of a lady, aged fifty (communicated by Dr. J. Copland), in which the speculum was used with fatal effect, when it was ascertained, after death, that the uterus and all its appendages were perfectly healthy. There were marks of recent violence at the orifice of the vagina, and the hymen was torn. Lymph, recently effused, was found coating the upper part of the spinal cord.

"Mr. Acton considered the Society were indebted to Dr. Lee for the paper which had just been read. It was always satisfactory to expose any kind of abuse, and he who did so was entitled to the thanks of the community. Why, however, the speculum had been especially taken up on this occasion he was at a loss to discover. Why, were not drugs abused, which were in use long before the speculum was brought to our aid in the cure of uterine disease? Was not Dr. Lee aware that patients suffering from disease of the uterus were for years under treatment by mere drugs and washes? He (Mr. Acton) contended that, if the speculum had been abused, so had the means just mentioned. The abuse of the speculum was no argument against its legitimate employment. Was not the stethoscope abused on its first introduction to practice? He regretted that Dr. Lee had not mentioned names in his paper, so that the odium might fall only upon those who deserved it. The paper had spoken of the exposure to which women were subjected who were examined by the speculum in France. He denied this generally. He himself had had to examine eighty women of a morning; the examination was conducted with the strictest regard to decency. In the great London hospitals, as, for instance, St. Bartholomew's, women were examined before a crowd of students, and close to other women. In Paris, on the contrary, the female was taken into a side room, a few students only were admitted, and a screen was used. The indelicacy was certainly in favour of the mode of examination practiced in this country. With respect to the statement in the paper regarding the insertion of an instrument into the os uteri to the extent of three inches, he might merely observe that the uterus would not admit of an introduction to such an extent. He mentioned this to

show the danger of using loose statements. With respect to the absence or presence of ulceration, as shown post-mortem, he might mention that this was scarce evidence sufficient to show what had existed before death, for the marks of disease might have disappeared. He had examined after death the woman Tapp, who had infected O'Connor with gonorrhœa. He could trace no ulceration; but did this prove that none had existed during life? He contended that, in consequence of the speculum not being in use in the hospitals of this country, many women were only partially cured, and were turned out 'well,' merely to infect fresh men. The sanitary value of the speculum, in this respect alone, should be placed against the abuse of the instrument as something in the opposing balance.

"Dr. Ashwell said the Society were indebted to Dr. Lee, who had ably dealt with what had become a great professional grievance. He (Dr. Ashwell) had no personal feeling on the subject under discussion, but he had been engaged somewhat extensively in public and private practice for many years. The result of his observations had been decidedly opposed to the views regarding uterine pathology, which had of late years been so industriously propounded. First, he denied at once the accuracy of the conclusions which some had arrived at respecting the frequency of ulceration and inflammation of the uterine neck. He had listened with attention to the remarks of Mr. Acton respecting the doubtful character of post-mortem examinations in deciding the question of the existence of ulceration during life. But what could be said of a thousand cases of actual uterine disease which had come under his observation in Guy's Hospital? These thousand cases had not only been examined by himself, but had been witnessed by pupils in the constant habit of observing uterine disease. They had been observed, also, without any reference whatever to deciding the question of the frequency of ulceration. And what was the result of these thousand examinations? Why, that inflammation of the neck of the uterus was found to exist in twenty-five cases only. These were cases, too, not selected, occurring chiefly amongst the poor, and taken at random from the great mass of cases coming to the hospital, and referred to him as obstetric physician. Taking this fact with the admirable statistical records of Dr. Lee, he contended that together they formed a series of facts and conclusions decidedly opposed to the assertions lately made with respect to the frequency of inflammation of the neck of the uterus. If the crowded room in which they were assembled was polled, and the experience of those gentlemen who had treated a large number of cases of uterine disease ascertained, he was certain that the result would be fatal to the statistics of those who had lately written on uterine disease. (Hear! hear!) Should the contrary, however, be the result, and these cases proved to be as numerous as stated, then arguments against the use of the speculum were at an end. The question, then, as to whether it was desirable to violate all the natural feelings of modesty of English women, would be answered by the fact that disease was present, and therefore the use of the instrument was not only justifiable, but necessary. But the statistics before us enable us to stand upon other grounds, and to declare the speculum not necessary to be employed as it now was, for the disease was not of the frequency which had been stated by the advocates of the use of the instrument. As now used, he had no hesitation in declaring his conviction that the speculum was subversive of female delicacy and female safety. He asserted that in nine out of ten cases in which it was now employed its use was unjustifiable. He had devoted many years of his life to that branch of the profession which had for its object the treatment of diseases of women. He had had a moderate share of practice, and he could not help thinking that the use of the speculum, as practiced by some medical men, amounted almost to a professional dishonour. (Hear, hear.) This feeling had been slowly forced upon him; but it was a powerful one—so powerful, indeed, that if the speculum was continued to be employed as it now was, he knew not whether he should not feel it necessary to withdraw from the treatment of the diseases of women altogether. He was pleased that Dr. Lee had alluded to the use of other instruments. He (Dr. Ashwell) could add cases to the fatal one related in the paper from the rash use of badly constructed instruments. The narration of

the cases, however, would only harrow up the feelings of the Society, and he would not therefore further allude to them. Dr. Lee deserved well of the profession and of society, but more particularly of the female portion of it, for his efforts to retard the progress of this most dangerous instrument. (Loud cheers.)

"Dr. MURPHY had great reluctance in rising to speak on the subject under discussion, because he felt himself somewhat in the light of a defendant. He thought, however, that a distinction had not been drawn between the use and the abuse of the speculum. He perfectly agreed with Drs. Lee and Ashwell in all they had said, so far as the abuse of the instrument went; but, on the other hand, he knew no sufficient substitute for it in the treatment of those cases of uterine disease in which its employment was indicated. With respect to the frequency of inflammation of the neck of the uterus, he had certainly been surprised at the statement of Dr. Ashwell, that he had only found twenty-five instances of this pathological condition in 1026 cases of uterine disease. He (Dr. Murphy) could only say that he was in the daily habit of seeing cases of inflammation of the neck of the uterus in all the stages of its progress. If he did not do so, then he was ignorant of what inflammation really was. He agreed with Dr. Lee on the impropriety of using the speculum and caustics in the cases of carcinomatous and other diseases he had mentioned. With respect to the objection to the words 'inflammation' and 'ulceration,' he thought, after all, the dispute was merely about terms. Dr. Lee would find in the cases he (Dr. Murphy) alluded to, a circumscribed inflammatory surface secreting pus, call it what we might. What treatment would you adopt in such a case? He (Dr. Murphy) said that constitutional treatment without local applications would be of no use whatever. He had seen cases of this kind going on from year to year in which medicines had been of no benefit whatever. But when the cause was found out to be the condition of the cervix he had named, and the treatment adopted which would have been pursued in such a condition of other mucous membranes, the patient got well. He had seen hundreds of cases of uterine disease, and he declared that seven-tenths of these were inflammation of the cervix uteri. If inflammation of the uterine neck were properly treated, many females would be saved from most severe and prolonged anxiety and misery. With respect to the influence of the use of this instrument on the female character, let it be remembered that the name of Englishwomen in every age was chastity, and it could not be believed that they would connive at indecency of conduct in those who went about unnecessarily employing this valuable instrument merely to raise their own characters. No! it was clear that from the way in which they submitted to its use, they found benefits from it which they had not experienced from any other plan of treatment. It was right to mention that certain unfortunate cases had occurred from the use of this instrument, in consequence of cases falling into the hands of those who did not know the disease under treatment. But another mischief besides mistaking hysteria for ulceration had occurred, and this was the production of fatal peritonitis from cauterizing a fold of the mucous membrane of the vagina in mistake for the uterine neck. But was this blundering of unskilful practitioners an argument against the use of the speculum in the hands of the well informed? In conclusion, he would beg of those who were opposed to the speculum to judge for themselves on the subject, and to separate the use from the abuse of the instrument. (Cheers.)

"Dr. HENRY BENNET remarked that, although there were many points in Dr. Lee's paper with which he did not agree, he considered it, on the whole, a valuable contribution to medical literature, cautioning the profession, as it did, against the abuse of instrumental treatment. The most important feature of the essay was, in his opinion, the admission, on the part of Dr. Lee, of the existence of the inflammatory lesions of the cervix uteri, which had been described by modern writers—ulcerations in their various forms and stages. The crowded state of the meeting was also a 'sign of the times,' as it showed the great interest which the profession was beginning to feel on the subject. Dr. Lee's principal objections appeared directed against the asserted frequency of these inflammatory lesions; against the use of the more severe escharotic treatment, and especially of potassa fusa; and against the examination of virgins. Dr.

Lee attempted to disprove the frequency of inflammatory ulceration of the cervix by the results of post-mortem examinations made many years ago at the Marylebone Infirmary, and more recently at St. George's Hospital, and also by instances of erroneous diagnosis which had fallen under his own observation in private practice. He (Dr. Bennet) did not admit either argument. It was a well-known fact, in the history of medical science, that the most eminent pathologists often passed over important lesions without observing them until their attention had been thereto directed; and when these researches were made at the Marylebone Infirmary, the practical knowledge of the inflammatory lesions of the cervix uteri did not exist in the profession; nor did he consider—without in the slightest degree calling into question their high attainments—that the prosectors of St. George's alluded to had shown that they possessed the practical knowledge of minute uterine lesions in the living, that could alone give weight and importance to their researches on the dead. Moreover, it must be remembered that the females in question died from general disease, without the existence of any uterine ailment having been suspected, and that the discovery of such lesions, on even a very limited proportion of their numbers, was of itself a clear proof of the not unfrequent existence of the disease. It was not likely that these forms of disease would be frequently observed after death, as they were not fatal. Although he (Dr. Bennet) had seen many hundred cases of uterine ulceration during the last seven years, he had only lost one patient while under treatment, and that was a case of phthisis. The cases of erroneous diagnosis proved nothing at all with respect to the question at issue; but he (Dr. Bennet) would take that opportunity of most emphatically repudiating all connection with those cases. Not one of them had been under his care, and he could defy Dr. Lee, or any person present, to say to the contrary. In the course of the discussion, Dr. Ashwell had denied the frequency of ulceration of the uterine neck, and had appealed to his experience at Guy's Hosiptal, where he had examined and treated 1000 cases of uterine disease, and only met with twenty-five cases of inflammation of the cervix. He was sorry to say that there was no possibility of reconciling Dr. Ashwell's assertions with the results at which he (Dr. Bennet)had arrived, and which he had published in the second edition of his work on Uterine Inflammation—viz., that out of three hundred cases presenting uterine symptoms, he had found 243 of inflammation, and 222 of ulceration. Either he or Dr. Ashwell must be totally wrong; there was no medium. He himself explained the discrepancy by supposing that Dr. Ashwell did not consider, at the time, that the symptoms presented by his patients warranted a speculum examination, and had not consequently recognized the real nature of their complaint in the majority of instances. His own statistical researches were commenced because he was startled, on the perusal of Dr. Ashwell's work, to find results which clashed so much with his own experience, and he must be either right in his conclusions, or labouring under some severe form of hallucination, which led him to think he saw what in reality did not exist. He was, however, quite prepared to put his views to the most open and decided test, and challenged the Society, or any gentleman present, to name a committee, to examine with him fifty, or a larger number of uterine patients in any hospital or public institution in London, and he would accept the results. If his views were correct, they would stand such a test in any country, in any institution; and if they were false, the sooner they were proved to be so the better. With reference to the use of severe escharotics, and principally of potassa fusa, which he congratulated himself on having introduced into British practice, they were absolutely necessary in some cases if the patient was to be cured. At the same time, an agent so powerful as potassa fusa ought to be used with the greatest caution, and was as much capable of producing mischief in rash and unskilful hands as the knife itself. He likewise congratulated himself in having been the first to point out to the profession the existence of severe inflammatory ulceration in the virgin, as he had thus been the means of rescuing many interesting females from a life of intense suffering, and possibly from premature death. It was a conscientious feeling of imperative duty which had first led him to overcome his own scruples, and those of his patients and their friends, in these distressing cases, and he had never done so except in cases in

which every other feasible means of treatment had been in vain tried, and in which the patients appeared devoted to hopeless suffering. He had brought with him, to show to the Society, the uterus of a young virgin lady of eighteen, who died of pneumonia, under the care of Mr. Anderson, his late colleague at the Western Dispensary, which presented an admirable illustration of severe and extensive ulceration. Would any gentleman present say that, were his own daughter reduced to the verge of the grave by such a disease, he would object to instrumental treatment, all other means having failed?

"A VISITOR, who, in answer to a question, said, 'my name is Jones,' remarked that to himself was due the credit of having first recommended the extensive use of the speculum in this country. In the year 1832, he had given lectures on the various forms of specula he wished to recommend at the Blenheim Street Dispensary. Since that period, he had treated 65,000 cases of disease in women. Of these, '3000, or about one in every eighteen,' did not yield to the ordinary constitutional treatment employed. In these cases, certain lesions were discovered, call them what we like, which would not have been detected without the aid of that instrument. He saw no more harm in the use of a speculum than in the use of a spoon to ascertain the condition of the throat. (Laughter.) But it did not follow from this that every woman need have the speculum employed, nor be subjected to the application of leeches, caustic, &c. He would, however, declare his conviction that thousands of women had been made happy and comfortable from the treatment which had been indicated by the speculum. He advocated discussion on the subject, for he felt convinced that the more the matter was canvassed, the more valuable would the speculum be found.

"Dr. A. P. STEWART inquired whether it was not a fact that, in a great number of cases, a condition of the neck of the uterus had been found to exist, in which escharotics had been found of the greatest service? Yet Dr. Lee had altogether denounced escharotics, on the assumption, as he (Dr. Stewart) understood, that the condition of the uterus above referred to was similar to a granular condition of the conjunctiva, and might have been caused by the same means. He had seen a granular state of the uterine neck in from sixteen to twenty-four cases, varying from the size of a shilling to that of a half-crown, which rapidly got well under the local application of the solid nitrate of silver. He thought the potassa fusa, except in very able hands, might be productive of much mischief.

"It was now proposed to adjourn the debate until another evening, but eventually it was decided to carry on the discussion for some time longer.

"Dr. LOCOCK, having been personally requested to give his views on the subject under discussion, rose, and said that it was not his intention to offer any remarks whatever on the present occasion. He had come, indeed, to receive, and not to supply, information. However, as he had been so pointedly called upon, he would say that he agreed with a great portion of what had been expressed by Dr. Lee in his paper, and thought that he deserved the best thanks of the profession for having pointed out, in so forcible a manner, the prevailing abuse of the speculum. The fact was that a certain number of men in the profession had unjustly and improperly employed the instrument to serve their own ends. In one point, he would even go farther than Dr. Lee, for he could state for certain that cases were even made by means of the speculum for no other purpose than to be a means of obtaining money. These, however, were the exceptions in our profession, and were not to be taken as a model. In our eagerness to denounce the unprofessional use of the speculum, we must not lose sight of its very great advantages. He, for one, should be sorry not to continue the use of this instrument, for he knew of no substitute for it. As to the talk of the indelicacy of its employment, that was all nonsense. When properly applied, there was no kind of exposure whatever. He had used it in a room when the father, the mother, or the husband of the patient had been present. His friend, Dr. Bennet, was in the habit of placing the patient on the back during examination; he (Dr. Locock) placed her on the side. Having done this, and having drawn the clothes or dress round the speculum, there was no more exposure to the surrounding parts than there would be of the face

in a mask, where the throat was examined. He certainly objected to the use of the instrument in unmarried females, if there were not sufficient grounds for its employment; but when ordinary means had failed, and ulceration was suspected, the only means to detect this was the speculum—and then he should employ it. As to the charge of breaking down the hymen, why, this was necessary sometimes to be done when the examination was made by the finger; but he never recollected a practitioner being abused for such a proceeding. He considered that there was no immorality or danger to female purity by the use of the speculum. The purity was mental, and not to be destroyed by a proceeding necessary, as this would be, in some cases of disease. Surgeons were certainly less particular than accoucheurs in exposure of the patient in their operations, and yet they met with no abuse. He could not help thinking that ulceration of the neck of the uterus must be a very frequent disease, looking at the great number of cases which came under his own observation. We detected by the speculum a thick glutinous discharge oozing from the os uteri, and not found in the vagina; we concluded, therefore, that this must come from the uterine neck. This condition could not be treated successfully by simple injections into the vagina. Many years ago, before the speculum was in use, Sir Charles Clarke (who would have used the speculum if in practice at this time) had described the discharge as a consequence of inflammation of the neck of the uterus, and to be of common occurrence. The speculum had demonstrated the correctness of this diagnosis. With regard to the statistical details of Drs. Lee and Ashwell, he would remark that the lesions might have been pale and unobserved; besides, the patients died of other diseases, this complaint not being of a fatal character. [Dr. Ashwell here remarked that none of his patients had died.] The statistics of ulceration could only be arrived at by the experience of men who practiced in that particular department. Statistics of post-mortem appearances would not give the result. Dr. Lee confessed to the use of the speculum when touch was insufficient for complete diagnosis. Now we had heard that the actual cautery produced no pain; and he had seen extensive cauterization which the patient did not feel. The absence of pain did away with one great indication of diagnosis from touch, and was an argument in favour of a judicious use of the speculum. In conclusion, he would remark that we were not justified in withholding the benefit of the speculum from our patient, any more than we should be in withholding a means of diagnosis when applied to other parts of the body. Of course he meant this remark to apply to the judicious and cautious use of the instrument. (Cheers.)

"Dr. Lee being loudly and universally called upon by the Society for a reply, rose and said—that it was now admitted on all hands that, in the diagnosis of the organic diseases of the uterus, malignant and non-malignant, and in every form of displacement of the organ, the speculum was wholly useless. In all the varieties of cancer of the uterus, not only was the speculum of no use, but it had been declared that evening to be positively injurious. It was impossible to believe that the gross mistakes respecting cancer of the uterus described in the paper could have been committed, if the speculum had not been employed, and the evidence furnished by the symptoms and the sense of touch had been wholly diregarded. Such mistakes were never committed till the speculum came into use, and the sense of touch was lost. It was important for the profession to know that there was no difference of opinion on this point—viz., that in all the organic diseases of the uterus, and in all the displacements, the speculum was of no use. In what diseases, then, of the uterus, we might now fairly inquire, did the instrument furnish aid to the diagnosis? The only answer given to the question this evening was that it was indispensable in all cases of ulceration of the os and cervix uteri from simple inflammation. From the various and important statistical documents read to the Society, it was conclusively proved that, in 3000 uteri, carefully examined after death by pathologists of established reputation, scarcely an example of simple inflammatory ulcer of the os and cervix uteri was met with. If simple ulceration of these parts existed in many cases during life, it could not fail to have been very often seen in so many uteri taken from the bodies of women of all ages, who had died from accidents, and acute and chronic diseases. Dr. Murphy had said elsewhere that ulcers of the os and

cervix uteri might exist during life, and disappear, or become invisible, after death. He (Dr. Lee) now asked, was this the case with ulcers of the mucous membrane of the stomach, bowels, or any of the other viscera, or even with the uterus itself, when it has been actually ulcerated from any specific cause? The very reverse of this was known to be the fact, and it was impossible to believe that, if simple inflammatory ulcers of the uterus were so common as had been represented, they should be invisible in the dead. But the truth was, they did not exist in the living, and therefore they could not be seen in the dead body. In the whole course of his professional life, he had never seen a distinct simple inflammatory ulcer in the living subject, although he had very frequently employed the speculum since 1827; in fact, in all cases where he could not form a decided opinion of the disease by the ordinary mode of examination, and where he thought the sense of sight would assist in the diagnosis. He held it to be wrong, on every ground, in any case, to employ the speculum where the nature of the disease could be clearly determined by the sense of touch. It had been asserted, that evening, that he had denounced the speculum in all cases; but those who had done so could not have listened to the paper when it was read, otherwise they must have heard that his (Dr. Lee's) object in the communication to the Society was to define and make known its legitimate use and real value in practice. It was equally erroneous to assert, as had been done, that caustic and all escharotics, of every kind, to the os uteri, had been denounced by him. He (Dr. Lee) then stated that sixteen years ago he had described in the *Cyclopædia of Practical Medicine*, under the title 'Inflammation of the Follicles of the Os Uteri,' the disease which was now erroneously called ulceration of the os and cervix. In the article in question, reference was made to the work of Madame Boivin, who had before described the disease under the title 'Granular Inflammation of the Os Uteri.' He (Dr. Lee) said he had not described simple inflammatory ulceration of the os and cervix uteri, because he had never seen it, and he believed it rarely, if ever, occurred, and that the profession in this country had been grievously misled by Dr. Bennet on the subject. There was no end to the cases now coming under his (Dr. Lee's) observation, especially in young and hysterical women, where the speculum and caustic had been employed for months, and where there was no ulceration, and where no ulceration or any other organic disease ever had existed. He even believed that Dr. Bennet himself had never seen simple ulceration of the os and cervix uteri, although he was now disposed to take so much credit for having been the first to describe what he erroneously supposed had escaped the observation of all preceding pathologists. He (Dr. Lee) formed this opinion from Dr. Bennet's own published description of these supposed ulcers of the os and cervix uteri, which he would now read to the Society, and was as follows: 'The margin of an inflammatory ulcer is scarcely ever, if ever, either everted or inverted. . . . . So much is this the case, that it is generally most difficult to say where the ulceration finishes, until, by the application of the nitrate of silver, the margin of the sore, or point where the epithelium finishes, be revealed. . . . . It is always on a level with or above the non-ulcerated tissues that limit it; its margin never presents an abrupt induration. Owing to this circumstance, it is always impossible to determine by the touch the precise point at which the ulceration terminates.' Dr. Bennet did not know; he merely asserted that the epithelium finished at the edge of the imaginary ulcer. Was he certain that the epithelium did not remain, and by a state of morbid thickening give rise to the appearance of an ulcer 'which,' he said, 'is always on a level with or above the non-ulcerated tissues that limit it?' Undoubtedly, the mucous membrane in most of these cases was unusually vascular and thickened; and he (Dr. Lee) should not be surprised if it were to be found that the epithelium was present and thickened also. What would be thought (said Dr. Lee) if a surgeon could not tell whether an ulcer existed on any organ of the body without the application of such a test?—who would say to his patient, 'Let me first rub the part with lunar caustic, and then I will tell you whether an ulcer exists or not?' Dr. Bennet's ulcer could not be recognized by the sense of touch, for it had no margin inverted or everted; it could not be seen through the specu-

lum till the part had been rubbed with the nitrate of silver. It had neither centre nor circumference, beginning nor end.

"Dr. Lee here sat down amidst the most enthusiastic cheering of the whole assembly. He afterwards rose and made some severe remarks to the Society on the instruments called Simpson's uterine sound and stem pessaries."—*Lancet*, June 8th, 1850.

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53. *On Engorgement and Deviations of the Uterus.*—M. Dubois, in the recent discussion in the French Academy relative to this question, observed that great discrepancy of opinion prevails as to whether *anteversion* or *retroversion* is of more frequent occurrence; and from the attention he paid some time since to this question, he believes that perhaps there have occurred to him rather more cases of the latter than of the former. Confusion, too, has resulted from employing the terms *inflexion* and *deviation*, as if they were synonymous. The uterus may be bent upon itself without any change in its direction taking place, and *vice versâ*, although the two conditions may in certain cases be combined. Well-marked inflexion is usually congenital, existing in common with a series of other alterations; while deviation is generally accidental. Nevertheless, an inflexion may occasionally be acquired, and even be produced, as a consequence of excessive deviation, being here, however, a mere secondary phenomenon. In true inflexion, the volume of the uterus is often less than normal, but the walls retain a proper density; while in deviation, followed by incurvation, the volume is often increased, the density diminished, and the sensibility augmented. Inflections do not of themselves seem to induce any ill effects upon the general health; but by the obstruction of the menstrual flux to which they give rise, they frequently cause dysmenorrhœa. Even deviations and displacements, contrary to the general opinion, when not in excess, which they commonly are not, are almost harmless, unless the uterus itself, or the parts it comes in contact with, are the seats of inflammatory action. Long observation has convinced M. Dubois that deviations of the womb are of such very frequent occurrence that, if they ordinarily led to the consequences they are said to do, and the means usually recommended for the prevention of these were had recourse to, a third part of the inhabitants of the towns would be obliged to resort to the employment of such, or resign themselves to a hopeless sterility.

Moreover, he denies the agency of *engorgement* in the production of deviations, for, if it were as operative as supposed, there could be scarcely a case of early pregnancy without deviation being produced. *Engorgement* is, in fact, not a primary circumstance, but an epiphenomenon manifesting itself in the uterine just as in any other tissue, which has been the seat of phlegmasia: especially when that phlegmasia, as in the case of the uterus, the amygdalæ, the testis or ovary, is very liable to reproduction. So, too, with regard to *simple* or *granular erosions*, to which Velpeau and others attach so much importance, they are phenomena consecutive upon a prior diseased state, and both as regards symptomatology and treatment are only of secondary importance. In the great majority of cases, they have succeeded, not preceded, the mucous and purulent discharges of uterine affections attributed to their agency, and their artificial removal is not followed by a cessation of these.

M. Dubois regards a *uterine phlegmasia*, and generally a *catarrhal phlegmasia*, as the essential and primary pathological element in the great majority of uterine affections. But, although originating there, the phlegmasia does not in some cases continue confined to the mucous membrane, but may involve the parenchymatous structure to a greater or less extent; and although whether superficial or deep-seated, it is usually confined to the cervix, yet occasionally it attacks the body of the organ, and gives rise to more or less *engorgement* of it also. In almost all cases, too, this uterine phlegmasia is produced by the operation of local causes, among which may be especially mentioned abortion, difficult labour, insufficient repose after delivery, imprudences committed during the menstrual period, and immoderate sexual intercourse. But while making the foregoing statement, it is not intended to deny that there are uterine affections quite unattended with inflammation, which may yet give rise to many

of the functional disturbances usually dependent upon it; and, indeed, Lisfranc, as well as most other pathologists, has admitted the existence of neuralgia of this organ.

The *treatment* of *chronic uterine phlegmasia* was, some time since, based upon the belief of its tendency to induce a cancerous degeneration of the organ; and this it was which led Lisfranc to regard the epiphenomenon of uterine *engorgement* as the dominant and capital element of uterine disease, the removal of which was the primary object of treatment. At present, it is believed that such degeneration only takes place in the predisposed, the phlegmasia merely rendering this organ the elective seat of its manifestation in such.

Although this phlegmasia may sometimes disappear under the influence of mere rest and appropriate hygiène, yet of all forms of chronic phlegmasia it is, perhaps, the one most prone to become perpetuated when left to itself. This arises, on the one hand, from the limited amount of vitality with which the uterus is endowed, excluding those internal organic movements which in other organs may quickly resolve pathological phenomena; and on the other, from its frequent exposure to accidental or periodical excitement.

An important question presents itself as to whether the treatment should be entirely general, as recommended by MM. Baud and Gibert, or essentially local, as insisted upon by all the other speakers. It is rare for a phlegmasia to continue for several months without inducing a derangement of the general health, which, again reacting on the local malady, renders its cure more slow and difficult; and, therefore, while in some exceptional cases local treatment may effect a durable cure, and in others general treatment will suffice, yet, in the great majority, it is to an association of the two means we must look—the relative importance of the one or the other varying with the temperament, mode of life, state of the disease, and other circumstances. In this last point of view, a great difference will be found between hospital and private patients; the habits and education of the latter having impressed upon the symptomatology of their uterine affections a particular character of nervous predominance, rendering their cure more difficult, and a resort to general means more urgent. If local medication, too, is applicable when the uterine lesions are evidently dependent upon a general derangement of health, it is especially called for in those numerous cases in which this is not primarily present. When uterine affections have been prolonged, a disturbed state of the genital and digestive organs and of the nervous system is produced, manifesting itself by a semi-chlorotic condition, great impressionability to erratic pains, and a remarkable degree of emaciation and debility. A tonic and antispasmodic medication is here obviously indicated; while long-continued repose in the horizontal posture, so insisted upon by Lisfranc and his followers, should, unless severe suffering be present, be exchanged for active exercise, pursued, however, with discretion.

M. Gibert and others object to the use of *caustics* in the *local* treatment of this affection, as being useless and dangerous; but this arises from a want of consideration of the nature of the substances employed, and the pathological conditions requiring them. The irritation produced is superficial, the vitality of the tissues is low and their tolerance great, while the phlegmasia is of that chronic character requiring modification for the purpose of stimulating into activity the organic movements necessary for a cure. This cure by their agency is usually slow, but assured; and their employment is one of the numerous examples of the success with which a more active phlegmasia may be substituted for a chronic one.

As regards the treatment of *deviations*, M. Dubois is of opinion that *inflexions* are almost always incurable, but that they give rise, however, to little inconvenience, if not existing in an aggravated degree. Even *displacements* of the organ, when not in excess, and not complicated with phlegmasia, do not produce the symptoms so generally attributed to them. A sense of weight in the pelvis, that of a body tending to pass the vulva, or of a bearing down at the fundament, are not pathognomonic of uterine displacement, but are found daily in cases of uterine phlegmasia, quite unattended with this, especially when the phlegmasia assumes a subacute form. We can, by pressure upon the inflamed cervix with the finger, at any time give rise to these sensations at will. When

displacement of the uterus, therefore, does not exist in an excessive degree, pessaries, and similar means, so commonly resorted to, are not only useless, but injurious. It is indeed for considerable *prolapsus uteri* alone that M. Dubois resorts to a pessary, employing then an ivory one. As he considers it essential for the patient's welfare that she should be able to remove it every night and replace it every morning, it should not be sufficiently large to remain within the genital passage without external support, and he has contrived an ingenious form of applying this. In prolapsus, pressure from below will completely maintain the uterus in its normal position; but this is not the case with respect to *anteversion* and *retroversion* of the organ, in which, therefore, he never employs the pessary; but when they exist in excess, resorts to a modification of Hull's abdominal bandage. It is true that this does not correct the displacement; but, by removing the weight of the superincumbent viscera in the erect position, it may prevent its increase. By the same agency the employment of this bandage proves of great utility in uterine phlegmasia, enabling the patient to take an amount of exercise so conducive to her recovery, which she otherwise often could not.—*Brit. and For. Med.-Chirurg. Rev.*, July, 1850, from *Gazette Médicale*, Nov. 4, 1850.

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54. *On the Application of Ligatures to Uterine and other Polypi.*—Prof. Langenbeck, of Berlin, in an interesting paper on this subject in the *Deutsche Klinik*, remarks: The numerous instruments which have been contrived for ligature of polypi of the uterus and pharynx, show the great apprehension of hemorrhage from their excision or evulsion. Even the assurances of Siebold, Dupuytren, and other distinguished surgeons, that there is no greater danger of hemorrhage from the excision of polypi than from other operative methods, have not removed this apprehension; and the ligature of uterine polypi is rapidly gaining ground, in spite of the difficulty of its performance. It is true that the excision of large fibrous tumours from the pharynx and uterus may be complicated with considerable hemorrhage; but this generally ceases of itself when the operation is ended, or may be quickly and surely restrained by the continued injection of cold water, by compression with the finger, or, in the most obstinate cases, by plugging. The cases in which actual danger arises from the patient becoming exhausted by hemorrhage through the cut pedicle of the tumour are very rare. But the dangers attending on ligature of the polypi are far greater; and this operation would certainly be had recourse to only in exceptional cases, if the fatal cases following it were not less apparent than those from the much-dreaded hemorrhage. A death occurring some days or weeks after a bloodless operation seems less terrible than one occurring suddenly from hemorrhage under the hands of the operator. The danger of purulent infection, after the application of a ligature to uterine polypi, is so obvious that I have not yet been able to determine on performing this operation. During the last ten years, there have occurred to myself alone ten fatal cases of pyæmia after ligature of polypi. The larger polypous (fibroid) tumours of the uterus and pharynx are furnished with large veins with thin parietes, doubtless arising from the impediment to the return of blood caused by the dependent position, or constriction by the os tincæ, of the tumour. As the firm parenchyma of these tumours can only be slowly cut through by a ligature, the blood must still circulate in one part, while another is in a sloughed and softened state. As long as the pedicle is not entirely cut through by the ligature, pyæmia is to be feared. Entirely independent then of the danger of convulsions, suffocation (in polypi of the pharynx), secondary hemorrhage, etc., the application of the ligature ought to be entirely rejected on account of the danger of pyæmia. But if it be still determined, in spite of the marked success attending the excision of polypi, and in opposition to which scarcely a single case of unrestrainable hemorrhage can be related, to apply a ligature, I consider it indispensable that the polypus should be immediately excised, that the ligature should be used only as a precautionary measure, and that it should be removed as soon as the danger of hemorrhage appears to have been obviated.

It is not my purpose to enter on a critical examination of the various methods

and instruments employed in applying the ligature to uterine polypi, as, for the most part, they possess only a historical interest. With very few exceptions, they are all faulty in being difficult of application, in tending to produce violent irritation of the neighbouring parts, and in the ligature being unable to be removed until the pedicle of the tumour is entirely divided.—*Lond. Journ. Med.*, July, 1850.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

55. *Ethereal Oil of Bitter Almonds.* By Prof. Mitscherlich.—Owing to the difficulty of entirely freeing this substance from Prussic acid, physiological experiments hitherto performed with it have given very different results. M. Mitscherlich has recently undertaken a series on rabbits, which confirm the observations of those inquirers who state that its dangerous effects are proportionate to the amount of Prussic acid which still continues combined with it, and that, when freed from this, and given in doses in which the unfreed oil quickly kills, it scarcely excites any more powerfully poisonous effects than do the other essential oils. The conclusions are:—

1. Bitter-almond oil is a poison in large doses. It acts more feebly than ethereal mustard oil, but more strongly than the ethereal oils of savine, cinnamon, nutmeg, fennel, turpentine, juniper, or balsam of copaiba. 2. It is reabsorbed in the stomach, and in part excreted by the kidneys and lungs. Given in small doses, it may, according to the experiments of Wöhler and Frerichs, be oxidized in the economy, and converted into hippuric acid. In larger doses, the oxidation is incomplete, and a portion of the unchanged oil is found in the urine and expired air. 3. The most remarkable effects which fatal doses produce are, the rapid annihilation of voluntary motion and sensation; the respiratory movements and action of the heart; both of which are accelerated by this poison still continuing. 4. It produces the same changes in the intestinal canal as the other ethereal oils do. 5. When not freed from Prussic acid, it acts almost entirely by reason of its presence. The pure oil, given in doses of a scruple, does not produce any essential symptoms, but in larger doses it acts as the other ethereal oils.

The fact of this oil being employed in the manufacture of confectionery and perfumery invests these conclusions with a practical importance.—*Brit. and For. Med.-Chir. Rev.*, July, 1850, from *Buchner's Rep.*

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56. *Poisonous Effects from Zinc.*—It is now some time since it was proposed by M. Leclaire to use oxide of zinc as a substitute for white lead, with a view to avoiding the dangerous effects of the latter on the workmen. There could be little doubt that, in point of salubrity, oxide of zinc was an improvement on carbonate of lead; but it was still a matter worth determining to what extent the oxide of zinc was itself free from objection, and whether or not some precautions were necessary regarding its use.

M. Flandin endeavoured to determine this experimentally. He rubbed animals over with ointments of oxide of zinc, of carbonate of lead, and sulphate of lead; and whilst he found that the two last always produced poisonous effects, he observed that the animals rubbed over with the oxide of zinc continued to enjoy their usual health. The following facts, however, show that the innocuousness of oxide of zinc must not be admitted so decidedly as Flandin supposes.

I. *Poisoning by Oxide of Zinc, used as a substitute for White Lead.* By Dr. Bouvier, of the Hôpital Beaujon. A man, aged forty-two, a labourer, entered on 19th April with all the symptoms of metallic colic. He had been employed for the fifteen previous days at a white colour manufactory, along with five other workmen, in barreling oxide of zinc, and in repairing casks which had contained that substance, during which operation they were exposed to an atmosphere loaded with the powder of the oxide. From the commencement of their work, he and his comrades experienced colic and a repugnance to food;

and the wine and brandy which they took to excite their appetite were disgusting to them, and did not remove the clammy taste which they had constantly in their mouths. This man could not continue long at work. After ten days of this employment, he was seized with vomiting, severe colic, accompanied by constipation, which persisted and increased in intensity so much that he rolled on the floor in agony. On the day of admission, he continued to vomit, and to suffer severe abdominal pain. The vomited matters were bilious, and he rejected all his food almost immediately after swallowing it; he had had no stool for five days; the belly otherwise was natural, the tongue whitish; he had no appetite, was free from fever, but was sleepless. The next day, 20th April, the bowels were opened by two ounces of sulphate of magnesia, and the painter's purgative clyster, as used in La Charité—(this consists of twelve ounces of wine, with six of oil). The free evacuation of the bowels, and the administration of two and a half grains of opium, were followed by cessation of vomiting and diminution of the pain. From this time to 26th April, after having taken from six to twelve grains of gamboge daily, and using frequent clysters and medicated baths, he became convalescent, and was dismissed cured on 4th May.

From the whole history of the case, there appeared to be no doubt that this man suffered from a genuine zinc colic. To ascertain that it was really oxide of zinc which had caused the illness, M. Bouvier collected, by washing the surface of his body, the metallic particles which adhered to it, and found them to consist of oxide of zinc. We are not entitled from this to say that the oxide of zinc is as noxious as white lead; but it shows, at least, that some precautions require to be taken by those who work with it, in order to preserve their health.—*Compte Rendu de l'Académie des Sciences*, May, 1850, in *Bulletin de Thérapeutique.*

II. *Zinc Poisoning observed in the Workmen employed in twisting Galvanized Wire.* By MM. Landouzy and Maumene, of Rheims. The iron wire employed for securing the corks of champagne is sent in bundles of one to ten kilogrammes to workmen called *tordeurs*, who, by a dextrous manœuvre, cut and twist from ten to twenty threads of wire at a time. These wires are then made up in packets of one kilogramme, and, after being beaten with a bit of wood to make them even, are packed in bundles. Although this sort of work had been followed by the same workmen from eight to fifteen years under very bad hygienic circumstances as regards ventilation, they never had experienced any evil effects from it till the beginning of January, 1850, when the so-called galvanized wire (which is iron wire covered with a layer of zinc) was substituted for the common iron wire; and, soon after, the workmen began to complain of the taste as of a sweetish powder in the throat, an incessant tendency to cough and spit, shiverings, and general malaise. The whole of the people employed in this branch of industry—two youths, two women, and two men—were affected with symptoms which were referable to zinc. Four had symptoms of general depression, with sore throat, swelling and ulceration of the tonsils, inflammation of the palate, white pellicles on the gums, salivation, fetid breath, colic, and diarrhœa. In one, the colic and diarrhœa were the only symptoms observed; in another, the colic was accompanied by nausea, tenesmus, and obstinate constipation. The wires with which they worked had been made hurriedly and carelessly, and were covered with a dusty powder, which escaped abundantly during the twisting, and especially the beating, of the wires. This powder consisted of zinc, oxide and carbonate of zinc, alloy of zinc and iron, iron, and oxide of iron. It contained no trace of lead.

These symptoms seem to have subsided readily, without treatment, on abandoning the occupation. With one exception, all the work-people returned to their work in from three to six days.

That the symptoms were due to the exposure to the dust appears from the circumstance that, in fifteen days more, the same work-people, in the same hygienic circumstances, resumed the same work, with the same galvanized iron, but free from all dust, and none of these phenomena manifested themselves which were formerly observed.—*Monthly Journ.*, Aug. 1850, from *Gaz. Méd. de Paris*, 1st June, 1850.

57. *Case of Fatal Poisoning by Sir William Burnett's Fluid.* Reported by H. Letheby, M. B. (*Proceedings of Royal Med.-Chirurg. Soc.*, June 11th, 1850.)—The author commenced by expressing his belief that no fatal case of poisoning by chloride of zinc is on record—a remarkable fact, as the very commonly employed deodorizing fluid referred to is a strong solution of this poisonous salt. It will be found that the writings of the leading toxicologists, English and French, contain no mention of this salt as a possible source of danger to the community. The case related is that of a little girl, aged fifteen months, at Reddingfield, in Suffolk. Mr. Miller, of Eye, in the same county, was called to her on the 16th of August, 1849. She was in a semi-comatose state, the vital powers being much prostrated, the countenance pale and anxious, the breathing thoracic and rapid, the pulse quick and fluttering, and the general surface of the body cold, and bedewed with perspiration. The swelling of the lips, and the thick transparent mucus adhering to them, led to further examination, and the lining membrane of the mouth was found to have the appearance of having undergone the action of a corrosive substance. The child had been well in the morning, and only an hour and a half before Mr. Miller saw her, had been seized with most violent sickness. A bottle of Sir William Burnett's fluid had been supplied to the mother some days previously, in consequence of some cases of fever in the house she inhabited. On rousing the child, it craved for cold water, which evidently refreshed its mouth; but little, if any, could be swallowed, and it was partly returned by the nostrils. The throat was evidently swollen and painful. No relief could be given; vomiting of a frothy liquid took place at intervals, but the coma became deeper, the respiration slower, the pulse more feeble, and, ten hours after the symptoms had commenced, the child died. The body was examined twenty-two hours after death. Marks of the corrosive poison were found on the lips, lining membrane of the mouth, fauces, and œsophagus, which were white and opaque. The outer surface of the stomach had a mottled appearance, from ramifications of dark purple vessels; the intestines looked paler than natural. The stomach felt hard and leathery, and contained an ounce and a half of a fluid resembling curds and whey. Its inner surface was corrugated, opaque, and tinged of a dark leaden hue: this appearance ceased abruptly at the pylorus. The lungs were slightly congested; the auricles of the heart full of dark, semi-fluid coagula; the ventricles empty. The kidneys were much congested. The interior of the stomach was slightly acid to litmus paper, and, on digesting the organ in one ounce of distilled water, the liquid obtained gave white precipitates with prussiate of potash, carbonate of soda, sulphuretted hydrogen, and acid nitrate of silver, no precipitate being obtained on the addition of a soluble salt of baryta. The presence of chloride of zinc was thus demonstrated. The fluid matter taken from the stomach, and that ejected by vomiting, on being filtered and tested, gave the same reaction. The tissue of the stomach was then broken up with nitro-muriatic acid, the solution evaporated to dryness, re-dissolved in distilled water, filtered, and precipitated with sulphuretted hydrogen, by which means 3.8 grains of sulphuret of zinc were obtained, a quantity equal to 3.2 grains of the oxide, and 5.4 of the chloride of the metal. The fluid in the possession of the mother had a density of 1600, was slightly acid, and contained fifty-two per cent. of the solid chloride. Experiments made with this liquid, in order to determine its leading chemical and physiological characters, showed—1st. That the chloride of zinc is distinguished from the other salts of the metal by its quick and firm coagulating action on liquid albumen and on the delicate tissues of the body. 2dly. That a solution of chloride of zinc exerts a twofold action on the living animal economy. Its first effect is that of an irritant and caustic; the liquid coagulates the tissues, and gives pain in the part to which it is applied, and almost instantaneous vomiting. It appears, moreover, from the investigations of Orfila, that the salts of zinc act upon the stomach, not only when they are introduced into this organ, but also when they are injected into the blood-vessels of the body, or applied to a wounded surface. The second effects are of a constitutional nature; and it would appear that the poison exerts a distinct and specific action on the motor and organic system of nerves, for, soon after the poison gains access to

the circulation, the breathing and pulse become accelerated, paralysis of the voluntary muscles commences, the surface of the body grows cold, the pupil is dilated; the circulation and respiration become more and more affected, and lastly the brain suffers, coma supervenes, and death takes place without a struggle. The author stated, moreover, that his experiments prove the poison to be absorbed from the alimentary canal, and carried into the general circulation. He has detected the metal in the blood removed from the heart, in the tissues of the body, and in the urine excreted during life. The appearances presented by the blood indicate that the poison exerts some peculiar action on this fluid, which is found black and uncoagulated, and the cavities of the heart are distended as if the organ had lost the power of contracting on its contents.

Mr. Ure said that the chloride of zinc had been found of much service in surgery. He had used it pretty extensively, and some years since had pointed out its remarkable affinity for albumen. In his practice, no symptoms indicative of its absorption into the system had been manifested. He agreed with the author of the paper respecting the action of sulphate of zinc on the economy.

Dr. Letheby remarked that his experiments went to confirm the observations made by Mr. Ure as to the great insolubility of the coagulum formed by albumen and the chloride of zinc. He had observed, for instance, that when an albuminous tissue, as the stomach of an animal, had been acted upon by this agent, and was afterwards steeped in water for a length of time, it would neither dissolve nor decompose, nor even yield up the bulk of the salt with which it was in combination. This was evidence of the great affinity of this compound for albumen. He considered that the chloride of zinc might generally be used as a caustic, with little fear of its entering the circulation, or of producing effects on the general system. His investigations, however, had shown that when given internally the poison invariably found its way into the circulation. In the cases before the Society, he had been able to detect the metal, not only in the animal tissues, and in the blood taken from the heart, but also in the urine voided by the animal during its lifetime.—*Lancet*, July 6, 1850.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Cases of Asthma successfully treated by Nitric Acid. By T. S. Hopkins, M. D., of Bethel, Glynn county, Georgia.—The following five cases of asthma, cured by the use of nitric acid, have occurred in my practice since the summer of 1847. It is not my desire to attempt any explanation as to the modus operandi of this remedy in the above disease. Its beneficial effects were accidentally discovered, and, after a fair trial in five consecutive cases, with the most entire success, I am induced to bring it to the notice of the profession, trusting that in other hands than my own it may prove a potent agent for the relief of a disease which so often resists the best-directed treatment. Several of these cases were from twenty-five to thirty-five miles distant from my office. Most of them were not seen by me from the time of my first visit and prescription until a cure had been effected. I describe them as I found them at the time of my visit, and from the history given by parents and masters, which I think can be depended upon.

Case I.—Emma, negro girl, aged five years, belonging to Mr. T. G., had been asthmatic *almost* from birth. Nightly paroxysms of dyspnœa, cough, &c., were represented as most distressing. During the day, she would be up and about the yard with the other children. At the time that I saw her, her respiration was somewhat embarrassed, with slight elevation of the shoulders during inspiration, and a very distinct mucous râle. Her appetite was impaired, and her countenance cheerless.

I ordered nitric acid, three drops, to be increased to five, three times daily, in a wineglassful of sugared water. A month elapsed before I again saw this patient, at which time every symptom of disease had disappeared. I prescribed for her in December, 1847, and up to date no symptom of asthma has returned.

Case II.—I was called in November, 1848, to see W. S., aged about six years, son of a planter of Glynn county. I was informed that this boy had been a subject of asthma for four or five years; that no expense had been spared in seeking for relief in his case; and that all the efforts of the best physicians in the neighbourhood in which he had resided, had been in vain. When I saw him, he had cough, slight dyspnœa, with mucous râle distinctly audible at the distance of several feet. By walking up and down the steps of the house, once or twice, the difficulty of breathing and cough would be much increased. He was very lively and cheerful, with a good appetite, and had had no fever for months. His father informed me that, upon the least *exposure* during the day, he would be attacked at night with the most fearful symptoms. Wheezing, panting, incessant cough, distressing dyspnœa, with impending suffocation, were the inevitable consequences (at night) of exposure during the day.

I ordered nitric acid, five drops, three times daily, in a wineglass of sugared water, with a strict avoidance of exposure.

In a fortnight, he had been so much relieved that his parents imagined him cured, and discontinued the acid. In a few days, he relapsed, and I was again sent for. I ordered the acid to be continued, as before, and in one month from the time of my first visit he was *cured*.

Up to date there has been no return of disease.

This boy's father died of phthisis pulmonalis. Several of his mother's family have died of the same disease; and all of *his* brothers and sisters, without an exception, have in early childhood been sufferers from enlargement of tonsils and ulcerated sore throat. He is now the picture of health.

Case III.—A mulatto girl, belonging to Mr. W. D. T., aged four years. This was a case of congenital asthma.

The symptoms in this and the following case (aged about four years) were so similar to those of Case I. that I shall not describe them.

The treatment was nitric acid, three drops three times daily, in a wineglass of sugared water.

This case resisted the treatment rather longer than the other cases, but was *cured* in about six weeks.

In Case IV., the immediate effects of the acid were perceived in a few days; and in eight or ten days she was cured.

Case V.—I never saw. It was a negro girl belonging to Mr. C. of Camden county. She was seven years of age. Her master applied to me for a prescription, after giving some of the most prominent symptoms, which convinced me that the case was asthma, as he had declared it to be.

I prescribed five drops of nitric acid, three times daily.

I heard nothing more of this case for several months after I had prescribed, when I was informed by her master that she was well.

A sufficient time has elapsed, in all these cases, to convince me that they have been radically cured.

Should you deem the above remarks and cases worthy a place in your valuable journal, you will please to insert them. It is at least something *new* in the treatment of asthma.

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Power of Lupulin in allaying Irritation of the Genital Organs. By Geo. J. Ziegler, M. D. of Phila.—Being obliged to resort to a prolonged use of tonics, I took the combination of iron, sulphate of quinia, and lupulin. After some time had elapsed, I believed that the indication for which I took lupulin was fulfilled. I therefore omitted it, still continuing the use of the iron and the quinia, ⅛ grain of the latter three times a day. In a few days, I began to experience symptoms of irritation of the bladder and urethra, with pain at the extremity of the penis and frequent desire for micturition, somewhat similar to those resulting from calculus. These symptoms increased, and in two or three weeks became so violent and constant as to give me no peace. The thought then occurred that they might result from something I was taking, and my mind reverted to the possibility of their proceeding from the quinia. This idea was confirmed by the opinion of a medical friend. As the symptoms did not appear during the use of the combination of lupulin with the other remedies, we concluded that it would be better to recombine them. This was done, and with the happiest effect. The feelings of distress began immediately to subside, and in a few weeks entirely disappeared; and although I have continued the use of the above-mentioned remedies for months since, I have had no further symptoms of the kind.

Thus, my own experience confirms the favourable opinion expressed by Dr. B. Page of the effects of lupulin in quieting the excitement of the genital organs, and induces me to suggest *its combination with the other remedies which generally produce irritation of these organs*, and likewise for the *prevention of strangury from cantharides, &c.* Indeed, I would recommend its employment *in all irritating and inflammatory affections of the urinary and genital organs; those from calculi, polypi, uterine and vaginal irritations, &c., particularly.*

The fact that I have not seen in any of the works on materia medica and therapeutics any notice of such effects resulting from the use of sulphate of quinia, will, I hope, be considered sufficient excuse for this brief notice.

Spina Bifida—Spontaneous Rupture of Sac.—Complete Cure. By W. H. NANCE, M. D., of Vermont, Ill.

The subject of the case in question was a young girl about thirteen years old; her mother informed me that, at birth, the tumour was about the size of the "end of the thumb," and could be easily pressed into the spinal canal. The tumour was situated at the juncture of the lumbar vertebræ with the sacrum, and, at the time I saw it, was as large or larger than a quart measure. It was of an oblong oval shape, had a neck an inch and a half or two inches in diameter, and made a prominence quite perceivable through all her clothing. The mother informed me that she had consulted (in the State of Ohio) several eminent physicians, when the child was small, and all advised her to have nothing done for it, as the child would not live long, and that anything that might be done would only hasten death. The child, however, continued to grow, was rather delicate, but had the proper use of all her limbs, the tumour increasing in size with her growth, until she was thirteen years old.

In February, 1848, almost all the family were afflicted with measles, and among the rest was the girl in question; she had it pretty severely, and the eruption was profuse all over her body. About the time the eruption began to decline and desquamation came on, the pendent point of the tumour began to get sore, and turn of a darkish colour, brought about, doubtless, by the exanthematous eruption acting on the part in its low state of vitality. The skin soon began to slough, and as soon as that took place, the water found its way through the textures beneath, and dribbled away continually. At this period, I was first called to the case, and found the tumour, as above stated, exquisitely tender to the touch, and constantly discharging a straw-coloured water which percolated the remaining textures of the tumour, and came away in enormous quantities, so much so that her bedding had to be changed very often. Sheets, blankets, &c., that were laid about her, would soon have to be removed for new ones, being thoroughly wet with the water. When placed in an erect posture for a short time, the liquid would pass away in quick successive drops. It would be hard to compute the amount which passed off in the course of five or six days, but it was perhaps without parallel. I found the patient very weak; muscles shrunken; extremities cool and of a purplish cast; pulse quick, weak, and fluttering; countenance dull, and expressive of much suffering, with a partial loss of the use of the inferior extremities. These symptoms were dependent, doubtless, on the great loss of the fluids of the body, through a morbidly increased action of the serous membrane lining the spinal canal, and produced a condition somewhat analogous to that caused by hemorrhage, or like that from the excessive serous discharges in epidemic

cholera. The symptoms strongly indicated speedy dissolution; I had but little expectation of saving the patient. I ordered her to take strong brandy in large doses, often repeated, until the skin became warmer and the pulse raised, unless it produced signs of intoxication; gave astringents also from time to time; had the extremities rubbed frequently, and wrapped in warm clothes, and applied a soothing poultice to the painful tumour. I knew that the tumour would burst soon, and as nature had commenced the operation, I concluded to support the system and let her do her work. On my next visit (the following day, I believe), I found the sac empty, its walls all collapsed into folds, hanging loosely down; in an effort to cough, it had given way and the contents had gushed out. General symptoms much as they were on the previous visit; discharge pretty considerable, perhaps a little abated; folds of sac very painful, look dark and inclined to gangrene at the inferior part, and emit a very offensive odour. Internal remedies to be continued with as much nourishing food as the patient will eat; bowels to be moved with castor oil if needed. Cloths were applied to the tumour wet with the liquid chloride of soda as strong as can be borne, to be repeated so as to keep the part entirely wet. On my next visit, I found my patient better, surface of body and limbs warmer and better colour, discharge from tumour less in quantity; offensive smell much abated, the dead parts sloughed off, and the living taking on a more healthy action.

My patient after this continued to mend. The discharge daily grew less in quantity and thicker in consistence, until it finally became purulent, and after a time ceased altogether. The remains of the sac gradually contracted, and was, I suppose, absorbed in part, until a hard semi-cartilaginous lump is left but little larger than a hulled walnut, which is not at all in the way, and serves the valuable purpose of completely protecting the spinal canal in the part where the deficiency of bone first produced the disease.

It has now been more than two years since the occurrence. The girl has grown to be a woman in size, has the proper use of all her limbs without any weakness of the back, has excellent health, and a fine ruddy complexion, and bids as fair for a long and happy life as other young persons

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DOMESTIC SUMMARY.

Case of Chronic Hydrocephalus.—Dr. William Pepper read before the Philadelphia College of Physicians, July 2d, 1850, the following account of a case of chronic hydrocephalus:—

A male child, aged five months, was brought to my office, May 9th, 1849, suffering with dropsy of the brain. The mother, a young married woman, had always enjoyed good health up to about three months before her confinement, when she met with a severe fall which required her to be under medical attendance for several weeks. In due time, she was confined, and had a perfectly natural labour. The child, at the time of birth, was apparently perfectly healthy, and its head was of the usual size. Three days after birth, however, the child commenced screaming, and so continued, with but short intermissions, for one month. From the end of the first month, convulsions set in, there being several fits every day, and these continued to occur during the entire second month. Up to this time, the child had also suffered with more or less fever. About the beginning of the third month, the head was observed to be somewhat enlarged, and it continued gradually to increase up to the time when the child was first brought to my office. The mother also stated that calomel,

blisters, and various other remedies had been tried in his case, but without any apparent benefit.

The child was evidently blind, and lay with the eyes half open, the balls being in constant motion; the pupils were natural in size, and sensitive to light. He appeared to be well developed, and could suck without difficulty; he, however, was exceedingly irritable, and continued to suffer with severe spasms, and at such times screamed violently. The bowels were perfectly regular, and the secretion of urine quite abundant; nor could anything like paralysis of the limbs be detected. Gently tapping the head gave rise to distinct fluctuation, as in cases of ordinary ascites; but no abnormal murmur or egophonic resonance of the voice could be detected by the most careful auscultation. The veins of the scalp were greatly distended, and, in fact, the whole physiognomy of the child was perfectly characteristic of the disease.

By careful measurement I found the head to measure, in circumference, twenty-three inches; from ear to ear, over vertex, thirteen inches; from nasal notch of os frontis to the base of the skull, over vertex, thirteen inches; from superior edge of one parietal bone to the other, six inches; and from the upper margin of os frontis to os occipitis, full eight inches.

The child did not again come under my observation until the second day of June, 1850, or more than one year from the time I was first consulted in the case. It was now about seventeen months old, and had attained a fair development for a child of that age. It was still perfectly blind, but appeared to have sufficient intelligence to recognize its mother's voice. The head had become enormously distended, and the spasms were more violent and frequent; but the child still appeared to have full use of its limbs; and, judging from the violence of its screams, it could not be considered as very feeble. At this time, the head presented the following dimensions: circumference, twenty-seven and a half inches; ear to ear, eighteen and a half inches; from nasal notch to base of skull, twenty-one inches; from parietal to parietal bone, eight inches; and from summit of os frontis to os occipitis, nine and a half inches; so that, by comparing these with the former admeasurements, it will be perceived that the following increase in the dimensions had taken place in a little more than one year: in circumference four and a half inches; ear to ear, five and a half inches; nasal notch to base of skull, eight inches; parietal to parietal bone, two inches; and from os frontis to os occipitis, one and a half inches; showing the greatest increase in an antero-posterior direction, and thus causing the forehead to overhang the face to a very considerable degree.

The child was brought to the Pennsylvania Hospital, June 4th, with the express view of having the operation of paracentesis performed. A candid exposition having been made to the mother of the numerous risks attendant upon such a procedure, and at the same time of the very slight prospect of a favourable result, she was still anxious that it should be performed, in the hope that at least some temporary relief to the child's sufferings might thus be obtained.

The operation was performed by Dr. Peace, June 6th. A small silver canula, armed with a grooved trocar, was introduced about one inch to the right of the longitudinal sinus, and half an inch from the superior margin of the os frontis. The removal of the trocar was followed by a jet of limpid serum, which continued to flow until about twenty ounces had been removed. During the operation, moderate pressure was maintained by the hands of the assistants, and after the withdrawal of the fluid, permanent compression was kept up by broad strips of adhesive plaster, so applied as to completely envelop the head. The puncture was dressed with a pledget of dry lint, lightly secured by a strip of adhesive plaster. Soon after the operation, the pulse appeared good, and the child took the breast with avidity; and in fact, no untoward symptom occurred up to June 10th, or fourth day after the operation; up to this time a considerable amount of serum continued to flow from the puncture; but it was now observed, that the child was more restless, with increased heat of the head, and more injection of the conjunctiva. The grinding of the teeth, and the spasmodic closure of the hands, to which it had been subject for many months, were now greatly increased; and at the same time it was noticed that the head

had become more tense. Towels wet with cold water were constantly applied to the head, and small portions of calomel and Dover's powder were directed; but on the morning of the 11th, I found that the child could not suck, and that it swallowed with great difficulty, so that only one of the calomel powders had been administered. On the 12th, the head was flaccid; no pulse could be felt at the wrist, and the child was evidently moribund. He expired the same evening, about six days after the operation.

The examination was made the following day, in the presence of Dr. J. F. Meigs and Dr. Levick. With the view of ascertaining the exact amount of fluid, the brain was punctured at its most dependent part, near the os occipitus, and about three pints of straw-coloured serum escaped from the orifice. The scalp was now dissected from the dura mater, and, finally, this membrane was carefully opened, so as not to injure the subjacent brain; upon inspection, however, it was ascertained that the brain, owing to the removal of a part of the fluid which had distended the ventricles, had receded from the dura mater, and was in a measure collapsed. Upon opening the hemispheres, they were found to be converted into mere sacs, the parietes of which in many parts were not more than one line in thickness, and so softened as to be lacerated by the slightest traction. About four pints of turbid serum still remained in the dilated ventricles; which, together with the three pints removed by puncture before commencing the dissection, and the one pint and four ounces removed at time of operation, made in all eight pints and four ounces.

The septum lucidum was exceedingly thin and lacerated, so as to allow a direct communication between the two ventricles; the laceration may, however, have occurred during the examination; and this is by no means improbable, when we remember the jelly-like consistence of the brain. The foramen of Monro was greatly dilated, so as to admit the end of the finger, and the fluid could thus readily have passed from one ventricle to the other, even had the septum remained imperforate during the life of the patient. The lining membrane of the ventricles was exceedingly thin and soft, and coated with a thin layer of gray puriform matter; a small yellow mass, about the size of a pin's head, adhered to the side of the right ventricle, and several similar bodies were found on the floor of the left ventricle, near its anterior part. The plexus choroides was very pallid, and the longitudinal sinus contained but little blood. The distinction between the cortical and medullary matter appeared to be entirely lost over those portions of the hemispheres where the distension was greatest; but at the posterior parts, where the parietes were nearly one-third of an inch thick, the difference between the gray and white matter was quite apparent. The corpus striatum and thalamus opticus of the right side appeared to be well developed and perfectly natural, whilst on the opposite side scarcely the rudiments of these bodies could be detected.

The pia mater throughout adhered firmly to the brain, and the convolutions of the hemispheres were almost entirely obliterated. The cerebellum, pons Varolii, medulla oblongata, and other portions of the base of the brain, were apparently healthy; though perhaps the cerebellum was somewhat softer than what is natural, even for early infancy. The commissure of the optic nerves was completely imbedded in soft lymph and puriform matter; and the same was true with regard to the other cerebral nerves, but to a much less extent.

Several points of ossification could be seen on the os frontis, and the orbital plates were forced down, diminishing the size of the orbits, and causing the eyes to protrude. The parietal bones were very thin and elastic, and at their free margins were, in fact, almost in a cartilaginous condition. The lungs and other organs could not be examined.

In making this communication to the college, I am fully aware that the case does not materially differ from numerous others on record. In our own city, at least, it is an exceedingly rare affection, and I have therefore thought it might prove interesting.

The first question of interest which presents itself in the present instance has reference to the congenital or acquired nature of the disease. Acute or chronic inflammation, the result of tubercle, or other mechanical cause, does occasionally give rise to effusion into the ventricles; yet it is hardly conceiva-

ble that, under such circumstances, life could be sufficiently prolonged to admit of any very considerable distension of the head, as in the above case. When we bear in mind that the mother, during her pregnancy, received a severe blow over the abdomen, it is not improbable that the fœtus may at the same time have sustained some injury, which ultimately gave rise to an increased effusion into the ventricles, and thus prevented the full development of the brain, as seen by the deficiency of the corpus striatum, and thalamus opticus of the right side. The mere facts that at time of birth the head was of natural size and perfectly well formed, and that the infant appeared well until several days after, are not to be received as conclusive proofs against the probability of any considerable amount of disease having existed prior to birth. The screaming and other symptoms of cerebral irritation, which so soon supervened, may be fairly ascribed to an increased irritation of the brain, induced by the numerous exciting causes to which the child was necessarily exposed after entering upon its new state of things.

The small yellow mass found on the side of the left, and on the floor of the right ventricle, bore some resemblance to tubercular matter; but it was exceedingly small in quantity, and may have been nothing but concrete pus. At all events, no granular tubercles were detected at the base of the brain, fissure of Sylvius, or other localities where such deposits are most commonly found. It should also be stated that both parents enjoyed good health, and were without any hereditary tendency to tubercular disease. Moreover, the labour was easy, and in all respects perfectly natural; so that the symptoms could not be ascribed to any injury sustained by the head during parturition. It has long been observed that illegitimate children are most liable to hydrocephalus; and it has been supposed that the tight lacing resorted to in such cases for concealment might form a sufficient cause for the imperfect development of the brain, which so frequently exists in this disease. But no such conditions pertained to the case under consideration; and we are therefore disposed to believe, not only that the disease was congenital, but that it was most probably induced by the injury received during pregnancy.

It is not always an easy matter to discriminate between internal and external hydrocephalus; and this difficulty was felt in the present case. When the effusion is into the ventricles, constituting hydrocephalus internus, it is most commonly congenital, and owing to a gradual increase of the fluid which naturally occupies the ventricles during fœtal life. The degree of development which the head sometimes undergoes under these circumstances is truly wonderful. In the *Dictionnaire de Médecine*, allusion is made to a case reported by Willan, in which, at the age of two years, the circumference of the head measured fully twenty-nine inches, whilst from ear to ear, over the vertex, it was not less than nineteen inches. Meckel mentions the case of a fœtal head aged seven months, the transverse diameter of which was sixteen inches.

On the other hand, in hydrocephalus externus, or when the effusion is into the sac of the arachnoid, the head seldom, if ever, attains the same degree of development; and it is this fact which best enables us to make a correct diagnosis as to the exact locality of the effusion. The distinction is an important one, since more may be hoped for from the operation of paracentesis in external hydrocephalus than in the other variety. In doubtful cases, we may sometimes be greatly aided in our diagnosis by carefully investigating the probable cause of the effusion; thus, while the internal form is generally owing to a mere arrest of development, or perverted nutrition, the external variety can very frequently be traced to blows inflicted during pregnancy, or after the birth of the child, or to the pressure resulting from laborious parturition. According to MM. Rilliet and Barthez, hemorrhage into the arachnoid is not an unfrequent cause of external hydrocephalus. Tubercles may give rise to either variety; but under these circumstances the head seldom attains any very considerable size.

The next, and perhaps the most important question in connection with this case is whether the condition of the patient justified the operation. We are well aware of the fact that by many this operation is considered as cruel and unjustifiable under any circumstances; nor can it be doubted that most of the

reported successful cases are exceedingly unsatisfactory, owing to the very imperfect manner in which they have been narrated.

In the *London Medical Gazette*, vol. ii. for 1841–42, there is a very able and elaborate report upon this subject by Dr. Charles West, in which he clearly shows that, out of the sixty-three cases of this operation which he has carefully collected from different authors, not more than two out of seven terminated favourably. But by a rigid analysis of these cases, it is rendered highly probable that even this degree of success is far beyond a fair estimate. It is well known to the profession that Dr. Conquest has reported ten successful cases out of nineteen operations for this disease; but here again it is to be regretted that there is the same deficiency of detail as to the exact condition of the patients, and the particular circumstances under which the operations were performed. We cannot, therefore, receive such evidence as conclusive proof of the comparative safety of the operation.

When the effusion has commenced at a very early period of fœtal life, the development of the brain must be more or less impeded, and it is therefore hardly probable that with such an imperfect organization of the nervous centre, life could be long protracted, even supposing that the enlarged head could be safely delivered. Much less would it be possible for such a being to be susceptible of any considerable degree of intellectual development. And yet it is well known that children born with copious effusion into the ventricles have lived for many years, and even attained a fair degree of mental development, notwithstanding the great and gradual increase in the size of the head. In such cases, the probabilities are that the effusion only commenced at a late period of fœtal life, and when the brain had already attained a more perfect organization; the effusion then must also have been very gradual, so as to cause the hemispheres to be slowly unfolded, and thus prevent any injurious pressure upon the brain. Such most probably was the condition of the brain in the case alluded to by Dr. C. West, where, with a tolerable amount of bodily and mental activity, life was prolonged for twenty-nine years. Goelis mentions an instance where life was protracted even to the advanced age of seventy-nine years.

From the above statements, it is evident that the mere existence of hydrocephalus is no certain proof that idiocy and premature death must be the inevitable result; and it is therefore fair to conclude that, when the functions of the brain are not materially impaired, it would not be justifiable to resort to a dangerous operation, with the mere view of relieving the patient from the inconvenience attendant upon the increased weight of the head. When the functions are very seriously impaired, owing either to an arrest of development or disorganization of the brain from a rapid effusion, nothing but temporary relief can be anticipated from the withdrawal of the fluid.

In the present case, it is true that the body was well developed; and that the child had a certain degree of intelligence is quite manifest from the fact of its recognizing its mother's voice: moreover, it could suck and cry vigorously, and apparently had free use of its limbs. But it should also be remembered that the child was blind, that it suffered with constant and painful spasms, and, above all, that the head was rapidly increasing in despite of the usual means of treatment recommended in such cases. The imperfect development of the brain, together with the general ramollissement of the cerebral mass, renders it highly probable that the child could not have survived long, even had the operation not been performed.

The quantity of fluid drawn off was barely sufficient to remove the distension; and it is well known that this operation has been repeatedly performed on the same subject, and under similar circumstances, not only without any immediate bad effects, but even with decided relief of all the most distressing symptoms.

Although the great development of the head rendered it highly probable that the effusion was into the ventricles, yet the previous history of the case left some hope that it might have been into the sac of the arachnoid, and that, under these circumstances, the operation would not only afford temporary relief, but even be followed by a permanent cure.—*Summary of Trans. of the College of Phys. of Phila.*, vol. iii. No. 2.

Fibrous Tumour removed from the Lobe of the Ear.—Dr. Geo. W. Norris read to the Philadelphia College of Physicians, July 2d, the following case:—

Ruth Tucker, a large and healthy negro woman, aged twenty-four, was admitted into the Pennsylvania Hospital in January last, on account of tumours developed in the lobe of each ear. She stated that between five and six years before she had her ears pierced, and that soon afterwards brass rings were inserted into them. These she wore for about a month, when the punctures, which had been from the first irritated by the metal, became so sore that the rings were removed. Some swelling had already shown itself around the punctures before they were taken out, and this increased in both ears, and gave origin to the tumours, which had continued since slowly to enlarge.

These tumours were heavy, and appeared to the feel to be lobulated and almost cartilaginous; they were not painful when handled; the skin covering them was perfectly healthy, and, except on account of the weight and size of the larger one, she experienced no inconvenience from them. The left one was much the larger of the two, and fully equalled in size a turkey's egg. The right had attained about half that bulk. Both were attached by a pedicle of some extent to the lower part of the ear and integuments below that organ. On the 19th, I removed the tumour from the right side, after which cicatrization took place kindly, though very slowly. The skin at the incised part was unusually vascular, and I observed, before the healing process was complete, that the cicatrix had be slightly elevated and hard, as if there was about to be a renewal of the g She left the hospital on the 3d of May, having been retained on accou ae ulceration of the arm, the result of a burn. This, which had been d and was followed by a slough, it may be interesting to observe, left a perfectly healthy cicatrix, but, on the lower part of her neck and breast, I discovered two or three *small* but long elevations of the skin, very similar to the appearance of the cicatrix following the incision which I had made for the removal of the tumour from the ear, which she stated to me had appeared after a scald which she had received in childhood.

In connection with this case, I may observe that I have twice previously removed similar tumours from the ear at the hospital; once in April, 1847, in a woman aged fifty, where the tumour was of four years growth, and had reached the size of a bantum's egg, but affecting only one side; and, on another occasion, in March, 1848, in a younger woman, where the tumours were of the dimensions of ordinary hickory nuts, and occupied both ears. Both of the patients were blacks in good health, and in both the growths had followed perforation of the ears for the introduction of rings; and, in the one last mentioned, there was decided evidence of a return of the affection when I last saw the patient, some months after the operation. Examination of these tumours presented appearances precisely similar to that which has just been given.

In one of our old hospital case books, I find that a similar disease has been before noticed there. The patient was in this instance, too, a black woman, who discovered, soon after her ears were perforated, a kind of pimple at each of the orifices. The two of these on the right ear, and the posterior one on the left, are described as having grown to tumours of the width of an inch with narrow necks. They were excised by Dr. Parrish, in 1817. It is stated that the healing of the wound consequent on the operation was slow, and that, on dissection, the tumours presented a cartilaginous appearance.

The tumours in all of the above instances, though varying very much in size, were of the same character, and seemed to be true productions from the cutis. The first appearance of the disease is a simple hard elevation of the skin, very similar to the raised cicatrices which are sometimes seen to follow burns, and is unaccompanied by any heat, pain, or glandular enlargement. In two of the three instances in which I removed the tumours, there was a commencement of reproduction of the disease soon afterwards, though the incisions in all of them were made beyond the thickened structure. All of the patients were free from any constitutional vice. From having observed the above three cases of this affection within as many years, all arising from the same cause, situated in the same part, and occurring in the same race, and having never met with any mention of similar observations in the course of my reading, I have thought that, along with the specimen which I last removed, and the minute account of

the dissection which has been furnished of it by our curator, a brief description of the cases might prove of interest to some members of the college.

The only disease which it at all resembles is that which was first described by Alibert as keloides. Whether or not the above cases belong to that rare affection, I must leave others to determine.—*Ibid.*

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On the Manner in which External Impressions made upon the Teeth are conveyed to the Nervous Pulp within.—Dr. JOHN NEILL called the attention of the Philadelphia College of Physicians, at a late meeting (April 2d), to the fact that no satisfactory explanation had yet been offered of the manner in which external impressions made upon the teeth are conveyed to their nervous pulp within. There is no difficulty in understanding the manner in which the nerves of the eye, of the olfactory organs, of the tongue, the skin, &c., are reached by the impressions for the reception and transmission of which they are respectively designed. But in the teeth the nerves are inclosed in a bony case; and yet experience teaches us that impressions made upon the teeth do reach the nerve within, and are conveyed through it to the nervous centre. How then is it that heat, cold, acids, or pressure when applied to the external surface of the teeth affect the nervous pulp within them? Some may suppose that the impression is transmitted to the nerve through the gums. It is doubtful whether the gums in their ordinary healthy condition possess any very great amount of nervous sensibility; at any rate this explanation is untenable. The old doctrine of increased sensibility of the teeth from inflammation has passed away: the teeth have neither blood-vessels nor nerves, and consequently cannot become the seat of inflammation. Dr. Neill believed that the transmission of impressions through the teeth may be explained by a reference to their anatomical structure. The parietes of the tooth are not perfectly solid; even the enamel is composed of a congeries of hexagonal prisms, which are not in perfect juxtaposition. This may be shown by the microscope. The bony portion beneath the enamel is even less solid; it is somewhat allied to bone, and consists of a number of minute hollow tubules, which pass from the circumference to the centre of the teeth, with the internal cavity of which they communicate; these tubules are filled with a fluid secreted by the pulp. Now if the tubules, thus filled, pass from the circumference to the interior of the teeth, may not pressure applied without, by compressing the enamel and the fluid of the tubules, affect the nervous pulp within, by subjecting the latter to a species of hydrostatic pressure, the amount of which can be measured? Whatever reduces the thickness of the enamel, or uncovers any portion of the dentine, increases the painful impressions caused by external pressure. Thus acid, by removing the mucus by which the teeth are ordinarily covered and perhaps a portion of the enamel, increases their sensibility to external impressions. When the teeth have been affected by acids, no disagreeable sensation is experienced until pressure is made upon them. Mr. Nasmyth, it is true, denies the tubular structure of the dentine, but it is admitted by all other writers on the anatomy of the teeth. Dr. Neill presented a specimen which would, he remarked, under the microscope, show very clearly the tubular structure of the dentine. Of the conveyance of impression to nervous expansions by hydrostatic pressure, we have an example in the ear. Dr. Neill supposed that all those substances which are known to relieve toothache, when applied to the affected tooth, acted by coagulating the fluid of the tubuli, and thus preventing hydrostatic pressure.—*Summary of the Trans. of the Coll. of Phys. of Philad.*, vol. iii. No. 2.

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Comparative Size and Shape of the Thyroid Foramen in the Male and Female Innominatum.—Dr. JOHN NEILL called the attention of the Philadelphia College of Physicians at their meeting of the 4th of June last to this subject.

He believed that many teachers of anatomy and of obstetrics were in error upon this subject, while others had failed to point out the difference in the male and female pelvis in this respect; that this was the case especially in this city, and perhaps in this country generally.

He had learned that Dr. Wistar and Dr. James taught that in the *female* the foramen was *oval*, and that in the *male* it was *triangular*, although there was no statement upon the subject in the old edition of Wistar's Anatomy which he

had examined, nor in the more recent edition known as Pancoast's Wistar. Dr. Horner also stated, in his work, that "in the male it is triangular, in the female rather oval." On the other hand, Meckel, Cloquet, Cruveilhier, Harrison, and Quain and Sharpey make a statement precisely the reverse of this.

The lecturers upon obstetrics with whom he had conversed either teach the former view, or are silent upon the subject. Denman, Baudelocque, and Maygrier say nothing. Neither does Monroe nor Cheselden, both high authority on the bones, nor Winslow, Bell, Bartholin, &c. &c.

Sœmmering says "the foramen is elliptical in children, and triangular in adults." Wilson and Von Behr say it is triangular in women.

In order to satisfy his own mind on the subject, Dr. Neill had, up to this period, examined thirty-two skeletons, and the result was so contrary to the view which he, and perhaps most of the Fellows, had been taught, that he had thought it worth while to prepare a chart, exhibiting diagrams of the male innominata in one column, and those of the female in another, to show at a glance the distinctive difference.

He believed, from an inspection of this, every one would be convinced that the foramen in the *male* is *oval*, while in the *female*, it is *triangular*.

It will also be observed that the male foramen is longer and narrower, and that the line representing the long axis is more vertical, and nearly parallel to the rami of the pubes and ischium; whereas, in the female the foramen is not only smaller and triangular, but that the apex of the triangle is downward, that its internal side is nearly parallel to the rami of the ischium and pubes, and that the base of the triangle is proportional to the chord of the arch of the pubes.

He remarked that the establishment of this fact, by investigation or by authority, would not interest the Fellows of the College in a practical point of view, its only value consisting in its affording another mark of distinction between the male and female skeletons.—*Ibid.*

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Case of Spontaneous Evolution of the Fœtus.—In the foreign department of our last number, p. 243, will be found recorded an interesting case of this description, and we add a second reported by Dr. J. S. Mitchell, in the *Charleston Medical Journal* for May last: "On the morning of the 10th of June, I was sent for to visit Mrs. W., whom I found engaged in her third accouchement. An examination *per vaginam* discovered to me a head presentation; the os uteri was slightly dilated, and the pains, though trifling, were frequent. Having other engagements of importance, I ventured to leave with the usual promise of a speedy return. It was not long after my departure, when I was again sent for, and I hurried to the bedside of my patient. I found, on my arrival, that the head of the fœtus had already passed through the os externum, and before I could make any arrangements for assisting the delivery, the remainder of the body had passed out. I quickly placed my hand upon the abdomen, with the view of securing a proper contraction of the uterus, when I discovered there a tumour of sufficient size to excite some suspicions as to the presence of a second in utero. I separated the fœtus from its mother, and prepared for further examination, when I discovered that the last effort of the uterus, which had expelled the first infant, had forced down the arm and shoulder of the second. This condition of things did not last long, however, for the uterus again contracting, I had the satisfaction of *seeing* the arm recede, and the nates, kindly taking its place, protruded through the vulva. I immediately seized it, determined that the capricious conduct of the infant should not again leave me in doubt and anxiety. In due time the nates was delivered, the shoulder and head following in turn. Thus ended, favourably to mother and child, a case from which I had a right, under ordinary circumstances, to expect much difficulty; another evidence of the fact that a case, under arm and shoulder presentation, may, by a spontaneous evolution of the fœtus, terminate unassisted, the breech being first expelled.

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Twins.—One Fœtus blighted, but retained until full period.—Dr. C. Macgibbon relates, in the *New Orleans Med. and Surg. Journal* (Sept. 1850), a case of twins, where one of the fœtuses was blighted about the fourth month of

gestation, but retained with its fellow until full period. The blighted fœtus was first extruded. The second child was full grown, but was still-born.

Another case of two fœtuses of unequal development, extracted at the same time, is related by Dr. I. B. Davis of Franklin co., Ohio, in the *Ohio Med. and Surg. Journ.* for Sept. 1850. One of these fœtuses was large, and had evidently reached the full period of seven months. The second appeared to be of only ten weeks growth, but was fresh and free from all sign of putrefaction. The mother, who had borne several living children, and had frequently aborted, considered herself to be in the seventh month of pregnancy.

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Blighted Fœtuses retained till Full Period.—Dr. T. C. Osborne records, in the *Western Journ. of Med. and Surg.* (July, 1850), a case in which a fœtus of three months development was retained and expelled at full period.

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Ovariotomy.—Dr. P. J. Buckner, of Georgetown, Ohio, relates (*The Ohio Med. and Surg. Journ.*, Sept. 1850) a case of ovarian tumour successfully removed through an incision eight inches in length. The subject of it was Mrs. C——, thirty-nine years of age, the mother of several children. The tumours had numerous adhesions by bands of organized lymph, which were divided; it arose from the right ovary and broad ligament. The pedicle was secured by a single ligature, which came away the thirty-ninth day after the operation. Many alarming and dangerous symptoms followed, but the patient recovered.

Dr. Buckner alludes to a second case reported by him in the *Western Lancet* for Oct. 1848, in which he operated successfully, and also gives the details of a third case, in which the patient died the sixth day after the operation from peritoneal inflammation.

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Collodion in Mammary Inflammation. (*North-Western Med. and Surg. Journ.*, Sept. 1850.)—Disheartened by the general want of success in preventing suppuration, in mammary inflammation, by the ordinary means of treatment, and satisfied that the most prominent indication of cure was to overcome the freedom with which the blood is forced into the mammæ, and, by compression, cause the absorption of the lymph, Dr. John Evans states that he determined to use a complete coating of collodion to obtain the benefit of its contraction, and that in no case in which he has resorted to it, except one, has the slightest suppuration taken place. In every instance, the relief from suffering has been prompt, and no inconvenience has resulted from its use in any case, except the slight smarting that attends its application.

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Treatment of Dropsical Affections by Injections of Iodine.—In our No. for July, 1848, p. 262, we noticed a case of spina bifida successfully treated by Prof. Brainard, of Chicago, by injections of iodine and iodide of potassa in solution. In a late paper in the *N. W. Med. and Surg. Journ.* (July, 1850), the professor says that this, the first of his published cases, was not by any means the first case of dropsical effusion in which he had used injections. "As early," he says, "as Dec. 1845, I threw into the peritoneum gr. xv. iod. potass, dissolved in f. oz. j dist. water, after having as perfectly as possible evacuated the fluid by tapping. An acute smarting pain was produced, which subsided in a few minutes, and no sign of inflammation followed. The patient returned home, and I lost sight of him.

"Since that time, Dr. F. Hagemann, of this city, injected the peritoneum of a dropsical patient twice, at my request. I have not notes of the case; it was one of incurable organic disease, but the injections produced no inflammation.

"During the past winter, I injected the abdomen of a patient labouring under general dropsy, as well as ascites from disease of the heart, with gr. iv. iodine and gr. viij iod. pot. in solution, without drawing off the fluid. It was followed by no signs of inflammation, but the fluid in the peritoneum was absorbed, and a great amelioration of symptoms followed.

"These were all supposed to be hopeless cases of disease in which the injection was used, not with the expectation of cure, but to ascertain the danger which there might be of producing inflammation. The result, in that respect, was perfectly satisfactory. I can now also add two other cases treated in a

similar manner; one by Dr. M. Clure, of Dundee, Ill., and another by Prof. Mussey. These gentlemen have stated to me that they have recently used the injection without inflammation resulting. In the *Am. Journal of Medicine* for Oct. 1847, p. 491, is the report of a case of ascites cured by Mr. Leriche, of Lyons, in this manner. The injection was strong, and made, in this instance, after all the fluid had been drawn off.

"This practice seems to have been tried with success a long time ago. Pereira speaks of it, and refers to the Philosophical Transactions of 1774.

"Samuel Cooper, in his *Surgical Dictionary*, says he has seen two fatal cases from the practice. As they were both, as far as can be judged, from the injection of alcohol, after the fluid was evacuated by tapping, it is only surprising that one of the patients should have survived for a long time. Such cases do not authorize us to reject the practice when properly conducted, or justify the conclusion that it is necessarily dangerous.

"It may then be considered an established fact that injections of this kind may be made, with suitable care, without danger of producing inflammation. It remained to be shown that dropsical effusions could be cured without such inflammation or adhesion of the sac in which it was situated.

"A man applied to me, during the past winter, with a large hydrocele, of eighteen months' standing. Injected f. dr. j of a solution of iod. potas. and iodine, gr. j of the latter to gr. xij of the former, to the oz. of water, without drawing off any fluid, the solution being thrown in through an exploring canula. This was subsequently repeated twice, and at the end of six weeks scarcely any trace of effusion remained, the man having continued his labour, and felt but slight tenderness in the organ."

The professor has also recently treated three cases of spina bifida, all associated with hydrocephalus, and therefore unfavourable for perfect cure, by iodine injections. They all terminated fatally. These cases, Prof. B. says, justify the following inferences:—

"1. Injections into cavities affected with dropsies may be made without great danger; the violence of the symptoms will depend upon the strength of the injection, the quantity of fluid present, and the duration of the disease. Old cases, when the membrane is thickened, or when the quantity of fluid is great, or when the surface has gradually become accustomed to the presence of the fluid, are those in which there is least danger to be apprehended.

"2. Spina bifida is generally a curable disease by such a treatment. Still, I would by no means assert that success can be always expected. It is sometimes associated with malformations or incurable disease. The internal surface of the sac is often inlaid, in a great part of its surface, by the trunks of the sacral nerves. A puncture of one of these, whether in tapping, injecting, or acupuncture, may be followed by serious results. This frequent presence of nervous trunks is a fatal objection to excision of the coverings of the tumour, to fetch the edges together by stitches.

"In addition, erysipelas or convulsions may occur in such cases from a simple puncture.

"Still, in general, I have no doubt the treatment will be found, as compared with any other known method, safe and efficient.

"The following are the circumstances to which I would particularly call attention as necessary to its safety and success:—

"Using not more than 1-32d part of a grain of iodine, and three times as much iod. pot. at the commencement, dissolved in dist. water; and *be sure it is of perfect purity, and the solution recently made.*

"As long as it produces moderate inflammation, do not increase the quantity.

"Make the puncture one-fourth of an inch from the base of the tumour, in sound skin; it is much safer.

"Do not evacuate the tumour, or, if it escapes, replace the fluid drawn off by dist. water.

"If spasms should occur, the fluid might be withdrawn and dist. water injected.

"The child should be laid upon its face, and, if heat and tension occur, cold be applied to the part and head.

"As soon as the tension is past, collodion should be applied and re-applied

as long as it continues to diminish in size. When it ceases or increases, a new injection should be made.

"3. The cases of ascites treated by me thus far, in this method, were such as offered favourable opportunities for testing injections in reference to the inflammation they might produce; it was necessary first to remove an erroneous opinion concerning their danger. I regretted afterwards not having continued their use with the object of effecting a cure.

"It is probable that inflammation has little or no connection with cure of dropsies by injection. It is only necessary in such cases to change the elements of the fluid, in some considerable degree, and the tendency to effusion ceases, the action of absorption becomes more rapid. It might be supposed that the case here narrated, of hydrocephalus, militates against this opinion. We have already shown that it is most probable that the fluid in that case was the result of secretion from a morbid glandular structure in the choroid plexus, and not by any means an exhalation from the surface of the arachnoid membrane. If it were otherwise, and hydrocephalus were analogous to ascites, anasarca, and other serous effusions, the want of success in curing it would not militate against its utility in other cases. To any one who saw the child at the commencement of the treatment, and observed the rapidity with which the head increased, there could be no doubt that without treatment the term of its life could be but a few days or weeks at farthest. That the treatment cured the back, removed in a great degree the paralysis, and modified and retarded the progress of the disease in the head, will afford encouragement for applying it in any case less certainly fatal than that disease.

"The effect of these injections in filling and saturating every part of the system with the medicine, should not be overlooked. In the hydrocephalic child, the most violent symptoms followed effusion of the iodine into the stomach. There was no salivation, as is the case when the medicine is thrown into the veins. Several years since, having occasion to treat a vascular tumour of a doubtful nature, I threw into it a small quantity (the notes are not at hand) of iodine and hyd. potash in solution. In a few seconds, the patient experienced a bitter taste in the mouth, and a free salivation, which lasted a week. It was composed simply of enlarged veins, and the medicine had entered the circulation.

"Convinced of this fact, the operation was repeated, with the same result. In the case of injections into the head, on the contrary, the effect seemed to be to invigorate nutrition and fatten the child, which grew, notwithstanding the effects following each operation. The importance of being acquainted with the action of other substances than those used thus far, when introduced into the cavities and tissues of the body, the effects they may produce in other diseases, such as ovarian cysts, anasarca, &c., might with propriety be considered here. They will, however, naturally occur to the reflecting mind, and I shall defer their further notice until I can communicate some facts calculated to throw light on the subject."

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Proceedings of the Fifth Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane.—The Association of Medical Superintendents of American Institutions for the Insane convened at the Tremont House in the city of Boston, on the 18th day of June, 1850, at 10 o'clock A. M.; the President, Dr. WILLIAM M. AWL, in the chair, and Dr. KIRKBRIDE, Secretary.

Present, Dr. JAMES BATES, of the Maine Insane Hospital, Augusta.

Dr. ANDREW MCFARLAND, of the New Hampshire State Asylum, at Concord.

Dr. WILLIAM H. ROCKWELL, of the Vermont Asylum for the Insane, Brattleboro, Vt.

Dr. LUTHER V. BELL, of the McLean Asylum for the Insane, at Summerville, Mass.

Dr. C. H. STEDMAN, of the Boston Lunatic Hospital.

Dr. EDWARD JARVIS, of the Dorchester (Mass.) Private Asylum.

Dr. GEORGE CHANDLER, of the Massachusetts State Lunatic Hospital, at Worcester.

Dr. N. Cutter, of the Pepperill (Mass.) Private Institution.
Dr. Isaac Ray, of the Butler Hospital for the Insane, at Providence, R. I.
Dr. John S. Butler, of the Connecticut Retreat for the Insane, at Hartford.
Dr. N. D. Benedict, of the New York State Lunatic Asylum, at Utica.
Dr. C. H. Nichols, of the Bloomingdale Asylum for the Insane, New York.
Dr. M. A. Ranney, of the New York City Lunatic Asylum, on Blackwell's Island.
Dr. Henry W. Buel, of Sandford Hall (Private Institution), Flushing, N. Y.
Dr. H. A. Buttolph, of the New Jersey State Lunatic Asylum, at Trenton.
Dr. Thomas S. Kirkbride, of the Pennsylvania Hospital for the Insane, at Philadelphia.
Dr. J. H. Worthington, of the Friends Asylum for the Insane, at Frankford, Pa.
Dr. William S. Haines, of the Philadelphia Lunatic Hospital, Blockley.
Dr. John Fonerden, of the Maryland Hospital for the Insane, at Baltimore.
Dr. John M. Galt, of the Eastern Asylum of Virginia, at Williamsburg.
Dr. William M. Awl, of the Ohio Lunatic Asylum, at Columbus.
Dr. S. Hanbury Smith, of the Ohio Lunatic Asylum, at Columbus.
Dr. R. J. Patterson, of the Indiana Hospital for the Insane, at Indianapolis.
Dr. J. M. Higgins, of the Illinois Hospital for the Insane, at Jacksonville.
Dr. Edward Mead, of the Chicago Private Retreat for the Insane (Illinois).

The minutes of the last meeting having been read, the President announced, in a feeling and appropriate address, the death of three members of the Association since its last meeting; Dr. Samuel B. Woodward, the first President of the Association, and formerly Superintendent of the Massachusetts State Lunatic Hospital—Dr. Amariah Brigham, Superintendent of the New York State Lunatic Asylum, and Vice President of the Association—and Dr. McNairy, Superintendent of the Tennessee Hospital for the Insane.

The Secretary reported that, as instructed by the Association, he had invited the Boards of Trustees or Managers of all the institutions for the insane, in the United States and British Provinces, to attend its meetings, and had received letters in reply from the Boards of Managers of the Maine Insane Hospital, Massachusetts General Hospital, Boston Lunatic Hospital, Friends Asylum, Pa., Maryland Hospital, and Eastern Asylum of Virginia. On motion of Dr. Bates, it was

Resolved, That each member of the Association be authorized to invite such gentlemen to attend its sessions as he may deem proper.

Dr. Bell stated that, in consequence of a full and well-written notice of the life and professional labours of our late associate, Dr. James Macdonald, of N. Y., having appeared in the *American Journal of Insanity*, he would suggest the adoption of that notice, instead of preparing another specially for the use of the Association, which was approved.

The President stated that, in obedience to the instructions of the Association, he had, soon after the last meeting, selected a subject for a report for each member, to all of whom due notice had been given, and from most of whom he had received answers accepting the duties assigned them.

An invitation from the Board of Trustees of the Boston Lunatic Hospital, to visit that institution to-morrow at 4½ P. M., was read and accepted.

On motion of Dr. Bell, it was

Resolved, That, in order to enable the members of the Association, while performing the regular business that may come before the meeting, so to arrange their sessions as most satisfactorily to apportion their time, and be able to enjoy the hospitality that may be extended to them, a business committee be appointed who shall, at the commencement of each morning session, report the papers to be read, and other matters to be attended to during the day. Drs. Bell, Bates, and Kirkbride were appointed the committee.

On motion of Dr. Rockwell, it was

Resolved, That a committee of three be appointed to prepare names to fill any vacancies that may exist in the offices of the Association. Drs. Rockwell, Benedict, and Kirkbride were appointed the committee.

Dr. Rockwell, from the committee to fill vacancies in the offices of the Asso-

ciation, nominated Dr. Luther V. Bell, as Vice President, in place of Dr. A. Brigham (deceased), which nomination was confirmed, and Dr. Bell duly elected Vice President of the Association.

An invitation from Drs. Cutter and Howe to visit their institution at Pepperill, Mass., was read, accepted, and referred to the business committee.

Dr. Stedman tendered to the members of the Association, in behalf of the Boston Society for Medical Improvement, an invitation to visit their cabinet, also one to visit the museum of the Medical College of Harvard University, which were accepted.

Dr. Jarvis tendered invitations to the members, in behalf of the Boston Museum of Natural History, the Boston Atheneum, and the Perkins Institution for the Blind, to visit those institutions, which were accepted.

Dr. Rockwell read a paper on the diet and dietetic regulations for the insane, which, after discussion by the members generally, was laid upon the table.

A letter was received and read from the librarian of the Massachusetts Historical Society, inviting the members of the Association to visit the Society's rooms during their stay in Boston, which was accepted.

Drs. Beck and Wing took seats with the Association as members of the Board of Managers of the New York State Lunatic Asylum.

Dr. Galt read a paper on the organization of Hospitals for the Insane, and Dr. Higgins on the subject of Resident Superintendents of Hospitals for the Insane. Then adjourned to 4 P. M.

Afternoon Session.—The Association met agreeably to adjournment.

The papers read by Drs. Galt and Higgins were called up for consideration, and the whole subject was fully discussed by the members generally, after which the reports were laid upon the table.

Dr. Bates read a report from the standing committee on the Medical Treatment of Insanity, which after discussion was laid upon the table.

An invitation from the librarian of the Boston Atheneum, for the members to visit the rooms during their stay in the city, was read and accepted. On motion of Dr. Bates, adjourned to 9 A. M., to-morrow.

Second Day—Morning Session.—The Association met agreeably to adjournment. The minutes of yesterday's proceedings were read and adopted.

Dr. John R. Allen, of the Kentucky Lunatic Asylum, Dr. John Waddell, of the Provincial Lunatic Asylum at St. Johns, New Brunswick, and Dr. James Douglass of the Quebec (Canada) Lunatic Asylum, appeared and took their seats as members of the Association.

Charles Edward Cook, and Otis Clapp, Esqrs., also took seats with the Association as members of the Board of Trustees of the Boston Lunatic Hospital. Dr. Kirkbride, from the committee on business, made a partial report, as required by the resolution of yesterday.

Dr. Ray read a report from the standing committee on the Medical Jurisprudence of Insanity, containing a project for a law regulating the legal relations of the insane, and which had been examined by, and received the sanction of, high judicial and legal authority; after the reading of the paper, on motion of Dr. Kirkbride, it was

Resolved, That the committee on business be instructed to have provided forthwith, for the use of the members, one hundred copies of the foregoing project of a law, and that the same be made the order of the day for the first session of the Association to-morrow morning.

Dr. Bell, from the committee on business, made a full report on the objects to be attended to by the Association during the day.

Dr. Bell read a paper on the use of narcotics in the treatment of insanity; after a full discussion of the subject by nearly all the members, the paper was laid upon the table.

Dr. Fonerden read a paper on the Modification of the Brain by habits, which, after discussion, was laid upon the table.

On motion of Dr. Kirkbride, adjourned to meet at the Boston Lunatic Hospital at 4½ o'clock P. M.

Afternoon Session.—The Association, after assembling, proceeded, under the guidance of Dr. Stedman and the Board of Trustees, to visit the Lunatic Hospital and other public institutions at South Boston.

After coming to order for business, Dr. Ranney read a paper on Insanity as it occurs among the pauper emigrants at the Lunatic Asylum on Blackwell's Island, near New York. After discussion, the paper was laid on the table.

A letter was read from Dr. Fremont, informing the Association that a paper, prepared by him, in reference to the past and present condition of the Insane in Canada East, would be presented to, and read before the Association by his colleague, Dr. Douglass.

On motion of Dr. Galt, adjourned to meet at the Tremont House at 9 o'clock to-morrow morning.

THIRD DAY—MORNING SESSION.—The Association met agreeably to adjournment.

The minutes of yesterday's proceedings were read and adopted.

Dr. Kirkbride, on behalf of the business committee, *moved* that the consideration of Dr. Ray's project of a law for regulating the legal relations of the Insane, which was made the order of the day for this morning, be deferred for the present, owing to the late period at which the printed copies have been placed in the hands of the members, which motion was agreed to.

On motion of Dr. Allen, it was

Resolved, That the Hon. Mayor of the city of Boston be requested to furnish us, for publication, a report of his eloquent address, delivered at South Boston last evening; and also, that the President of this Association be requested to furnish, for the same purpose, his appropriate address in reply.

Resolved, That the Secretary furnish each of the above named gentlemen with a copy of the preceding resolution.

An invitation to visit the University of Cambridge, and the Observatory, was received and accepted for 11 o'clock to-morrow.

An invitation from the Mayor and public authorities of the city of Boston, asking the members of the Association to visit the Harbour and Bay, and to inspect the public institutions in the vicinity, to-morrow afternoon, was received and accepted.

The Association, on motion of Dr. Bell, resolved to visit the Massachusetts General Hospital, on the invitation of Dr. Hayward, at 3½ o'clock, and the M'Lean Asylum for the Insane, on his own invitation, at 4½ o'clock this afternoon.

Dr. Galt read a paper on the Medico-legal Relations of the Insane, the discussion on which, on motion of Dr. Bates, was deferred till the project of a law, prepared by Dr. Ray, shall come up for consideration.

Dr. Worthington read a paper on the use of baths in the treatment of Insanity, which, after discussion, was laid upon the table.

Dr. Kirkbride, from the standing committee on the Construction of Hospitals for the Insane, read a report on that subject, which, after discussion, was laid upon the table.

On motion of Dr. Ray, it was

Resolved, That the standing committee on the Construction of Hospitals for the Insane be requested, previous to the next meeting of the Association, to prepare a series of resolutions or propositions, affirming the well-ascertained opinions of this body in reference to the fundamental principles which should regulate the erection and internal arrangements of American Hospitals for the Insane.

Dr. Jarvis commenced reading a paper on the Comparative Frequency, Curability, and Mortality of Insanity in the two sexes. After proceeding for some time, on motion of Dr. Bell, the further reading of the paper was deferred till the next session.

On motion of Dr. Allen, adjourned to meet at the M'Lean Asylum, at 4½ o'clock P. M.

AFTERNOON SESSION.—Having previously visited the Massachusetts General Hospital, the Association met, agreeably to adjournment, at the M'Lean Asylum, under the care of Dr. Bell, and guided by whom, they visited and examined the different parts of that excellent institution.

Having come to order for business, Dr. Jarvis concluded the reading of his paper, commenced this morning, which, after discussion, was laid upon the table.

ciation, nominated Dr. Luther V. Bell, as Vice President, in place of Dr. A. Brigham (deceased), which nomination was confirmed, and Dr. Bell duly elected Vice President of the Association.

An invitation from Drs. Cutter and Howe to visit their institution at Pepperill, Mass., was read, accepted, and referred to the business committee.

Dr. Stedman tendered to the members of the Association, in behalf of the Boston Society for Medical Improvement, an invitation to visit their cabinet, also one to visit the museum of the Medical College of Harvard University, which were accepted.

Dr. Jarvis tendered invitations to the members, in behalf of the Boston Museum of Natural History, the Boston Atheneum, and the Perkins Institution for the Blind, to visit those institutions, which were accepted.

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Dr. Galt read a paper on the organization of Hospitals for the Insane, and Dr. Higgins on the subject of Resident Superintendents of Hospitals for the Insane. Then adjourned to 4 P. M.

Afternoon Session.—The Association met agreeably to adjournment.

The papers read by Drs. Galt and Higgins were called up for consideration, and the whole subject was fully discussed by the members generally, after which the reports were laid upon the table.

Dr. Bates read a report from the standing committee on the Medical Treatment of Insanity, which after discussion was laid upon the table.

An invitation from the librarian of the Boston Atheneum, for the members to visit the rooms during their stay in the city, was read and accepted. On motion of Dr. Bates, adjourned to 9 A. M., to-morrow.

Second Day—Morning Session.—The Association met agreeably to adjournment. The minutes of yesterday's proceedings were read and adopted.

Dr. John R. Allen, of the Kentucky Lunatic Asylum, Dr. John Waddell, of the Provincial Lunatic Asylum at St. Johns, New Brunswick, and Dr. James Douglass of the Quebec (Canada) Lunatic Asylum, appeared and took their seats as members of the Association.

Charles Edward Cook, and Otis Clapp, Esqrs., also took seats with the Association as members of the Board of Trustees of the Boston Lunatic Hospital. Dr. Kirkbride, from the committee on business, made a partial report, as required by the resolution of yesterday.

Dr. Ray read a report from the standing committee on the Medical Jurisprudence of Insanity, containing a project for a law regulating the legal relations of the insane, and which had been examined by, and received the sanction of, high judicial and legal authority; after the reading of the paper, on motion of Dr. Kirkbride, it was

Resolved, That the committee on business be instructed to have provided forthwith, for the use of the members, one hundred copies of the foregoing project of a law, and that the same be made the order of the day for the first session of the Association to-morrow morning.

Dr. Bell, from the committee on business, made a full report on the objects to be attended to by the Association during the day.

Dr. Bell read a paper on the use of narcotics in the treatment of insanity; after a full discussion of the subject by nearly all the members, the paper was laid upon the table.

Dr. Fonerden read a paper on the Modification of the Brain by habits, which, after discussion, was laid upon the table.

On motion of Dr. Kirkbride, adjourned to meet at the Boston Lunatic Hospital at 4½ o'clock P. M.

Afternoon Session.—The Association, after assembling, proceeded, under the guidance of Dr. Stedman and the Board of Trustees, to visit the Lunatic Hospital and other public institutions at South Boston.

After coming to order for business, Dr. Ranney read a paper on Insanity as it occurs among the pauper emigrants at the Lunatic Asylum on Blackwell's Island, near New York. After discussion, the paper was laid on the table.

A letter was read from Dr. Fremont, informing the Association that a paper, prepared by him, in reference to the past and present condition of the Insane in Canada East, would be presented to, and read before the Association by his colleague, Dr. Douglass.

On motion of Dr. Galt, adjourned to meet at the Tremont House at 9 o'clock to-morrow morning.

THIRD DAY—MORNING SESSION.—The Association met agreeably to adjournment.

The minutes of yesterday's proceedings were read and adopted.

Dr. Kirkbride, on behalf of the business committee, *moved* that the consideration of Dr. Ray's project of a law for regulating the legal relations of the Insane, which was made the order of the day for this morning, be deferred for the present, owing to the late period at which the printed copies have been placed in the hands of the members, which motion was agreed to.

On motion of Dr. Allen, it was

Resolved, That the Hon. Mayor of the city of Boston be requested to furnish us, for publication, a report of his eloquent address, delivered at South Boston last evening; and also, that the President of this Association be requested to furnish, for the same purpose, his appropriate address in reply.

Resolved, That the Secretary furnish each of the above named gentlemen with a copy of the preceding resolution.

An invitation to visit the University of Cambridge, and the Observatory, was received and accepted for 11 o'clock to-morrow.

An invitation from the Mayor and public authorities of the city of Boston, asking the members of the Association to visit the Harbour and Bay, and to inspect the public institutions in the vicinity, to-morrow afternoon, was received and accepted.

The Association, on motion of Dr. Bell, resolved to visit the Massachusetts General Hospital, on the invitation of Dr. Hayward, at 3½ o'clock, and the M'Lean Asylum for the Insane, on his own invitation, at 4½ o'clock this afternoon.

Dr. Galt read a paper on the Medico-legal Relations of the Insane, the discussion on which, on motion of Dr. Bates, was deferred till the project of a law, prepared by Dr. Ray, shall come up for consideration.

Dr. Worthington read a paper on the use of baths in the treatment of Insanity, which, after discussion, was laid upon the table.

Dr. Kirkbride, from the standing committee on the Construction of Hospitals for the Insane, read a report on that subject, which, after discussion, was laid upon the table.

On motion of Dr. Ray, it was

Resolved, That the standing committee on the Construction of Hospitals for the Insane be requested, previous to the next meeting of the Association, to prepare a series of resolutions or propositions, affirming the well-ascertained opinions of this body in reference to the fundamental principles which should regulate the erection and internal arrangements of American Hospitals for the Insane.

Dr. Jarvis commenced reading a paper on the Comparative Frequency, Curability, and Mortality of Insanity in the two sexes. After proceeding for some time, on motion of Dr. Bell, the further reading of the paper was deferred till the next session.

On motion of Dr. Allen, adjourned to meet at the M'Lean Asylum, at 4½ o'clock P. M.

AFTERNOON SESSION.—Having previously visited the Massachusetts General Hospital, the Association met, agreeably to adjournment, at the M'Lean Asylum, under the care of Dr. Bell, and guided by whom, they visited and examined the different parts of that excellent institution.

Having come to order for business, Dr. Jarvis concluded the reading of his paper, commenced this morning, which, after discussion, was laid upon the table.

Dr. Bell, after referring to a paper read by him before the Association last year, relative to a somewhat peculiar form of mental disease, moved that a committee, consisting of Drs. Awl, Kirkbride, and Douglass, be appointed to visit a case of the disease then under his care in the Asylum, and to report the result of their observations, which was agreed to.

The committee, having examined the patient, reported that it was a well marked case of the form of disease alluded to, and although not often seen in institutions in the interior, is frequently met with in those near large cities, where cases manifesting much mental disturbance are commonly sent at once to a Hospital for the Insane.

On motion of Dr. Ray, adjourned to meet at the Tremont House at 8 o'clock to-morrow morning.

Fourth Day—Morning Session.—The Association met agreeably to adjournment.

The minutes of yesterday's proceedings were read and adopted.

Dr. Bell, from the committee on Business, made the usual report as to the proceedings of the day.

Dr. Douglass read a paper prepared by his colleague, Dr. Fremont, on the past and present condition of the Insane in Canada East. After discussion, the paper was laid upon the table.

Dr. Galt read a paper on Water Closets, which, after discussion, was laid upon the table.

The Association then proceeded to the consideration of the project of a law regulating the legal relations of the Insane, and after a full discussion the further consideration of the subject was postponed until the next session.

On motion of Dr. Bates, adjourned to meet at 9 P. M.

Evening Session.—After visiting the University of Cambridge, and the Observatory, the Association passed the afternoon as the guests of the corporate authorities of the city of Boston, in an excursion down the Harbour and Bay, in examining the public institutions in that vicinity, and in partaking of the sumptuous hospitality provided on the occasion, and then met for the transaction of business, agreeably to adjournment.

Dr. Bell offered the following resolutions, which were unanimously adopted, viz:—

Resolved, That this Association has felt, beyond the power of adequate expression, the profound solemnity which has been thrown around us, on occasion of its present meeting, by the loss of two of its members so prominent in the history of its organization, as well as in the records of the provision for the Insane in this country, and with still more sensibility, in view of the exalted personal worth, the amiable, cheerful, and communicative manners, and pure, self-sacrificing lives of the deceased.

Resolved, That the deep and general regret which filled the mind of the whole philanthropic community of an entire section of country and circles where they were best known, uttered in a thousand forms of expression, leaves us in no doubt that their virtues, merits, and devotion to great public duties have been appreciated in a degree commensurate with their just claims, and leaving neither place nor necessity for any long-drawn eulogium.

Resolved, That notwithstanding the full justice which has been done to the public and private character of our distinguished friends, we still feel that the members of this Association, more intimately and fully acquainted with their peculiar traits of service and sacrifice in our specialty, ought not to be satisfied without a more particular testimonial of our feelings and opinions as to our deceased brothers; we therefore earnestly and respectfully request that Dr. Chandler would prepare for the next meeting of the Association a biographical sketch of the late Dr. Woodward, and that Dr. Nicholls perform the same duty as regards the late Dr. Brigham.

On motion of Dr. Kirkbride, it was

Resolved, That Dr. Allen be requested to prepare an obituary notice of our late fellow member, Dr. McNairy, of the Tennessee Hospital for the Insane.

On motion of Dr. Bell, it was

Resolved, That the same course be adopted in reference to papers to be read before the Association at its next meeting, as was agreed upon last year.

On motion of Dr. Allen, it was

Resolved, That this Association regard with deep interest the progress of the magnificent project, which has been and continues to be urged by Miss D. L. Dix, on the consideration of Congress, proposing the grant of a portion of the public domain, by the Federal Government, the proceeds of which are to be devoted to the endowment of the public charities throughout the country, and that it meets with our unqualified sanction.

The subject of a project for a law regulating the legal relations of the Insane being again under consideration, on motion of Dr. Bell, it was

Resolved, That the same be recommitted, and that the committee report to the next annual meeting.

On motion of Dr. Allen, it was

Resolved, That a committee be appointed to prepare resolutions of thanks to the various public bodies and institutions, official and private citizens, to whom the members of the Association have been indebted for so much of the pleasure of their very gratifying visit to Boston. Drs. Allen, Kirkbride, and Benedict were appointed the committee.

Dr. Kirkbride tendered to the Association an invitation to hold its next meeting in the city of Philadelphia, when, on motion of Dr. Bell, it was

Resolved, That when the Association adjourns, it will adjourn to meet in the city of Philadelphia, on the third Monday of May, 1851, at 10 o'clock A. M.

On motion of Dr. Bates, adjourned to meet at 8 o'clock to-morrow morning.

Fifth Day—Morning Session.—The Association met agreeably to adjournment.

The minutes of yesterday's proceedings were read and adopted.

Dr. Kirkbride offered the following resolution, which was unanimously adopted, viz:—

Resolved, That the members of this Association have visited and examined, with great interest and satisfaction, the McLean Asylum for the Insane, under the care of Dr. Bell, and the Boston Lunatic Hospital, under the care of Dr. Stedman, and desire to express to these gentlemen our sincere thanks for their marked courtesy and attention, for their bountiful hospitality, and for their steady and unwearied efforts to promote our comfort and pleasure during our very gratifying visit to the city of Boston.

Dr. Allen, from the committee appointed last evening, reported the following series of resolutions, which were unanimously adopted, viz:—

Resolved, That the grateful acknowledgments of this Association be tendered to the Mayor, Common Council, and the citizens of Boston, for the flattering reception we have met at their hands, and their lavish hospitalities which have been tendered to, and enjoyed by us, and for the pleasure afforded us in a general examination of the public institutions under their control.

Resolved, That our thanks are due to the Trustees of the public institutions of South Boston for polite attention and liberal hospitalities during our visit to their institutions, and to the Trustees of the Massachusetts General Hospital, for similar kindness and attention.

Resolved, That our thanks are also due to Drs. Hayward and Townsend, Surgeons, and Mr. R. Girdler, Superintendent of the Massachusetts General Hospital; to Messrs. Harris and Sibley, Librarians, and other officers of Harvard University; and to the Messrs. Bond, of the Observatory, for attentions while visiting the institutions under their charge; and to the officers of the Boston Society for Medical Improvement, Boston Museum of Natural History, Massachusetts Historical Society, Boston Atheneum, and Perkins' Institution for the Blind, for invitations to visit their several institutions, and to the Rev. Lewis Dwight for valuable documents and other attentions.

Resolved, That our acknowledgments are due to Messrs. Tucker and Parker, the proprietors of the Tremont House, for the ample and elegant accommodations they have afforded us without charge, for the transaction of the business of the Association.

Resolved, That the Secretary be directed to furnish his Honour, the Mayor of Boston, with a copy of the preceding resolutions.

On motion of Dr. Allen, it was

Resolved, That the thanks of this Association be tendered to the President,

for his able and impartial administration of his arduous duties, and to the Secretary, for his efficient discharge of the laborious functions of his office.

The Treasurer reported, that, after paying all the demands against the Association, there remained a balance of twenty-three cents in his hands.

On motion of Dr. Stedman, it was

Resolved, That the Secretary be instructed to furnish a copy of the proceedings of the Association to the Editor of the *American Journal of Insanity*, and to the editors of the various medical journals in the United States and Canada, for publication in their respective periodicals.

On motion of Dr. Smith, it was

Resolved, That a committee of three be appointed by the chair, whose duty it shall be to take into consideration the whole subject of publishing, and to report their views to the Association at its next meeting. Drs. Smith, Allen, and Kirkbride were appointed the committee.

On motion of Dr. Benedict, adjourned to meet in the city of Philadelphia, on the third Monday of May, 1851, at 10 o'clock A. M.

THOMAS S. KIRKBRIDE, *Sec'y.*

Statistics of the Medical Colleges of the United States for the Session of 1849–50.

	Number of Students.	Number of Graduates.
Medical School of Maine		
Dartmouth Medical College (N. H.)		
Medical College of Castleton, Vt.		39
Vermont Medical College		
Medical Department of Harvard University (Mass.)	127	33
Berkshire Medical Institute	93	23
Medical Institute of Yale College		16
Med. Dep. Univ. State of New York (Coll. Phys. and Surg.)	208	49
Med. Dep. Univ. City of New York	404	111
Albany Medical College	96	26
Geneva Medical College	58	
Med. Dep. University of Buffalo, N. Y.	115	27
Medical Department University of Pennsylvania	438	178
Jefferson Medical College	576	211
Med. Dep. of Pennsylvania College	106	34
Philadelphia College of Medicine		
Medical Department University of Maryland	171	66
Med. Dep. of Washington University, Md.		
Med. Dep. of Columbian College, D. C.		
Med. Dep. University of Virginia		
Med. Dep. of Hampden Sidney College, Va.		
Winchester Medical College, Va.		
Medical College of State of South Carolina	174	62
Medical College of Georgia	179	44
Med. Dep. University of Louisiana	175	35
Memphis Medical College		
Medical Department of Transylvania University	92	32
Med. Dep. University of Louisville	376	113
Medical College of Ohio		42
Starling Medical College, Ohio	151	52
Med. Dep. Western Reserve College (Cleveland)	256	79
Indiana Medical College	40	6
Indiana Central Medical College	50	10
Rush Medical College	117	42
College of Physicians and Surgeons of the Iowa University	51	15
Med. Dep. Univ. State of Missouri	110	34
Med. Dep. St. Louis University	112	32
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"It is highly creditable to the authors of this work that, to the exclusion of theory and speculation, known anatomical facts, many of which are the fruits of their own careful and laborious investigations in microscopic anatomy, are made to serve as the foundations for most of their physiological deductions.

"The course pursued throughout the work is strictly in accordance with this view. A full description of the minute structure, constitution, and development of an organ of tissue precedes, always, and is made the basis of conclusions with regard to its functions; physiological views of their own, and of others, are fairly and candidly given, but none are recommended as worthy of being received and adopted, excepting such as are strictly in accordance with anatomical facts."—*Illinois and Indiana Medical and Surgical Journal.*

"In the present part (third) some of the most difficult subjects in Anatomy and Physiology are handled in the most masterly manner. Its authors have stated that this work was intended 'for the use of the student and practitioner in medicine and surgery,' and we can recommend it to both, confident that it is the most perfect work of its kind; containing much original matter, and also furnishing the reader with the actual state of the science of physiology at the present day, enlarged and enriched as it has been of late years by the labors of Müller, Wagner, Marshall Hall, Carpenter, Volkmann, and others.

"The peculiar excellence of this work seems to consist in the completeness of its several departments, and in proof of this we may appeal to the present part, where, among other subjects, the anatomy of the organs of sense is described with a fidelity and plainness only equalled by the complete yet concise account of their functions.

"We cannot conclude without strongly recommending the present work to all classes of our readers, recognizing talent and depth of research in every page, and believing, as we do, that the diffusion of such knowledge will certainly tend to elevate the sciences of Medicine and Surgery."—*Dublin Quarterly Journal of Medical Sciences.*

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Author of "Principles of Human Physiology," &c.

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We may commend this essay, nevertheless, as containing much useful information, and many powerful warnings to those who have not the strength of mind to "be temperate in all things."—*The London Medical Gazette.*

The author has considered the subject with great attention and judgment, and he has introduced many interesting illustrations of the lessons which he inculcates. Without declaring himself either for or against the total abstinence system, he examines impartially the uses and abuses of vinous and spirituous stimulants, and he specifies, in a cautious manner, the instances in which the use of stimulants is admissible, and may be required in the treatment of diseases.—*The Edinburgh Medical and Surgical Journal.*

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UNIVERSITY OF PENNSYLVANIA, MEDICAL DEPARTMENT.

EIGHTY-FIFTH SESSION, 1850-51.

The Lectures will commence on MONDAY, OCTOBER the 7th, and terminate about the end of March ensuing.

Theory and Practice of Medicine,	By GEORGE B. WOOD, M. D.
Anatomy,	" WILLIAM E. HORNER, M. D.
Materia Medica and Pharmacy,	" JOSEPH CARSON, M. D.
Chemistry,	" JAMES B. ROGERS, M. D.
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Clinical Instruction at the Pennsylvania Hospital, by GEO. B. WOOD, M. D., and by GEO. W. NORRIS, M. D.

Demonstrative Instruction in Medicine and Surgery by the Professors of the Medical Faculty, assisted by W. W. GERHARD, M. D., and HENRY H. SMITH, M. D.

Practical Anatomy, by JOHN NEILL, M. D., Demonstrator.

SUMMARY OF RULES OF GRADUATION.

The candidate to be twenty-one years of age—to have read medicine for three years, two of them under a respectable practitioner of medicine—to have attended two regular courses, one of them at least in this Institution—one Hospital course here or elsewhere—and to present a Thesis, of his own composition and handwriting.

The regular course is *Theory and Practice of Medicine; Anatomy; Materia Medica and Pharmacy; Chemistry; Surgery; Obstetrics, &c.; and Institutes.*

The Commencement will take place early in the following April.

Amount of Fees for Lectures in the University,	$105
Matriculating Fee (paid once only),	5
Hospital Fee,	10
Practical Anatomy,	10
Graduating Fee,	30

W. E. HORNER, M. D., *Dean of the Medical Faculty,*
July 1, 1850. 386 *Chestnut Street, above Thirteenth, opposite U. S. Mint, Philad.*

BALTIMORE COLLEGE OF DENTAL SURGERY.

Session 1850–51.

The regular Course of Lectures commences on the last Monday of November, and will continue four months.

ELEAZER PARMLY, M. D., *Provost.*
CHAPIN A. HARRIS, M. D., Prof. of Principles and Practice of Dental Surgery.
THOMAS E. BOND, JR., M. D., Prof. of Special Pathology and Therapeutics.
WASHINGTON R. HANDY, M. D., Prof. of Anatomy and Physiology.
CYRENIUS O. CONE, M. D., Prof. of Operative and Mechanical Dentistry.
PHILIP H. AUSTEN, M. D., Demonstrator of Mechanical Dentistry.

The Mechanical, Dissecting-room, and Dental Infirmary will all be open on the last Monday of October, and no pains have been spared for thoroughly teaching the Student both the Principles and Practice of his Profession.

FEES.

Fees for the full course,	$125 00
Diploma Fee,	30 00

W. R. HANDY, *Dean.*

JEFFERSON MEDICAL COLLEGE.

Session of 1850–51.

The regular Course of Lectures will commence on Monday, the 14th of October, and continue until the first day of March. The ANNUAL COMMENCEMENT for conferring degrees will be held *early in March*, instead of at the end of the month, as formerly.

ROBLEY DUNGLISON, M. D., Prof. of Institutes of Medicine, &c.
ROBERT M. HUSTON, M. D., Prof. of Materia Medica and General Therapeutics.
JOSEPH PANCOAST, M. D., Prof. of Gen., Descriptive, and Surgical Anatomy.
JOHN K. MITCHELL, M. D., Prof. of Practice of Medicine.
THOMAS D. MÜTTER, M. D., Prof. of Institutes and Practice of Surgery.
CHARLES D. MEIGS, M. D., Prof. of Obstetrics and Diseases of Women and Children.
FRANKLIN BACHE, M. D., Prof. of Chemistry.
ELLERSLIE WALLACE, M. D., Demonstrator of Anatomy.

Every Wednesday and Saturday in the month of October, and during the Course, Medical and Surgical cases will be investigated, prescribed for, and lectured on before the class. During the past year, *seventeen hundred and three* cases were treated, and *two hundred and nine* operations performed. Amongst these were many major operations—as amputation of the thigh, leg, arm at the shoulder joint, removal of the parotid, mammæ, &c., lithotomy and lithontripsy.

The Lectures are so arranged as to permit the student to attend the Medical and Surgical Practice and Lectures at the Pennsylvania Hospital.

On and after the 1st of October, the dissecting-rooms will be open, under the direction of the Professor of Anatomy and the Demonstrator.

FEES.

Matriculation, which is paid only once, - - - - -	$5 00
Each Professor, $15, - - - - - - - - -	105 00
Graduation, - - - - - - - - - -	30 00

The number of Students during the last session was 516; and of Graduates 211.

R. M. HUSTON, M. D.,
Dean of the Faculty, No. 1 Girard Street

PHILADELPHIA, *July*, 1850.

MASSACHUSETTS MEDICAL COLLEGE.

The Medical Lectures of Harvard University will commence at the Massachusetts Medical College in Boston, on the first Wednesday in November.

Obstetrics and Medical Jurisprudence by - -	WALTER CHANNING, M. D.
Materia Medica and Clinical Medicine by - -	JACOB BIGELOW, M. D.
Theory and Practice of Medicine by - - -	JOHN WARE, M. D.
Chemistry by - - - - - - - -	E. N. HORSFORD, M. D.
Pathological Anatomy by - - - - -	JOHN B. S. JACKSON, M. D.
Anatomy and Physiology by - - - -	OLIVER W. HOLMES, M. D.
Principles and Operations of Surgery by - -	HENRY J. BIGELOW, M. D.

Clinical Lectures at the Hospital three times a-week by the Professors of Clinical Medicine and of Surgery. Surgical operations are very numerous. The safe and effectual practice of etherization is taught in this School. Practical Anatomy is amply provided for by new and liberal arrangements.

Fees for the whole Course, $80. Matriculation, $3. Dissecting Ticket, $5. Graduation, $20. Hospital and Library gratuitous.

A descriptive pamphlet may be had by application, post-paid, to David Clapp, Printer, corner of Washington and Franklin Streets, Boston.

The TREMONT STREET SCHOOL for private pupils, having all the advantages of the Hospital, Dissecting-Room, and of daily recitations throughout the year on the branches of medical science, is conducted by Drs. Bigelow, Storer, Jackson, Holmes, and H. J. Bigelow, Physicians and Surgeons of the Hospital.

Boston, July, 1850.

PENNSYLVANIA COLLEGE, MEDICAL DEPARTMENT.

Ninth, below Locust Street, Philadelphia.

FACULTY.

Theory and Practice of Medicine, - - - -	William Darrach, M. D.
Obstetrics and the Diseases of Women and Children,	John Wiltbank, M. D.
Materia Medica and Therapeutics, - - -	Henry S. Patterson, M. D.
Anatomy and Physiology, - - - - -	William R. Grant, M. D.
Principles and Practice of Surgery, - - -	David Gilbert, M. D.
Medical Chemistry, - - - - - - -	Washington L. Atlee, M. D.

The Lectures for the Session of 1850–51 will commence on Monday, October 14, and continue until the 1st of March.

The Anatomical Room will be opened on October 1st, under the direction of Dr. James Hunter, Demonstrator of Anatomy.

Clinical instruction at the Pennsylvania Hospital is provided for all second course students. Fees: Matriculation, $5; for the ticket of each Professor, $15; Graduation, $30.

For further information, address

HENRY S. PATTERSON, M. D., *Registrar*,
No. 92 Arch St.

MEDICAL COLLEGE OF OHIO.

SESSION OF 1850–51.

THE THIRTY-FIRST ANNUAL SESSION OF THIS INSTITUTION will open on the first Monday in November next, and close on the last of February, under the following arrangements:—

H. W. Baxley, M. D., Professor of Anatomy.
John Locke, M. D., Professor of Chemistry and Pharmacy.
L. M. Lawson, M. D., Professor of Physiology and Pathology.
T. O. Edwards, M. D., Professor of Materia Medica and Therapeutics, and Medical Jurisprudence.
R. D. Mussey, M. D., Professor of Surgery.
Landon C. Rives, M. D., Professor of Obstetrics and the Diseases of Women and Children.
John Bell, M. D., Professor of Theory and Practice of Medicine.
John Davis, M. D., Demonstrator of Anatomy.

☞ The following branches will be included in the course: *Anatomy, Chemistry, Pharmacy, Physiology, Pathology, Materia Medica, Therapeutics, Medical Jurisprudence, Medical Botany, Surgery, Obstetrics, Diseases of Females, Diseases of Children, Practical Medicine*, and *Physical Diagnosis.*

☞ The Dissecting-Rooms will be opened for classes on the 1st of October.

☞ Clinical Lectures, on Medicine and Surgery, will be delivered at the Commercial Hospital three times a-week.

OCTOBER LECTURES.

A Course of Lectures will be delivered by the Faculty (free of charge), commencing on the first of October, and embracing the following subjects:—

Anatomy and Physiology of the Senses; Diseases of the Eye; Medical and Elementary Botany; Functional and Organic Diseases of the Uterus; Medical Jurisprudence; Physical Diagnosis.

☞ Also, Clinical Lectures at the Commercial Hospital.

FEES.—For a Full Course of Lectures, $84; Matriculation and Library Ticket, $5; Dissecting Ticket, $8; Graduation Fee, $20; Hospital Ticket, $5.

☞ Board (including the expenses of room, fuel, and lights) can be obtained at from $2 to $3 per week.

Further information may be obtained by addressing the Dean.

L. M. LAWSON, M. D., *Dean of the Faculty*,
South side of Sixth St., between Walnut and Vine.

Cincinnati, *July*, 1850.

PHILADELPHIA COLLEGE OF MEDICINE,

Fifth Street, South of Walnut.

The Winter Course of Lectures for 1850 and '51 will be commenced on Monday, October 14th, 1850. The General Introductory will be given by Dr. JAMES McCLINTOCK. Degrees will be conferred early in March.

FACULTY.

JAMES McCLINTOCK, M. D., Principles and Practice of Surgery.
RUSH VANDYKE, M. D., Materia Medica and General Therapeutics.
THOMAS D. MITCHELL, M. D., Theory and Practice of Medicine.
JAMES BRYAN, M. D., Institutes of Medicine, and Medical Jurisprudence.
EZRA S. CARR, M. D., Medical Chemistry.
M. W. DICKESON, M. D., Comparative and Pathological Anatomy.
JAMES McCLINTOCK, M. D., General, Special, and Surgical Anatomy.
F. A. FICKARDT, M. D., Obstetrics and Diseases of Women and Children.

Fee for the full Course, $84. Matriculation, paid once only, $5. Graduation, $30. Fee for those who have attended two full courses in other Colleges, $45. Dissecting ticket, $10. Perpetual ticket, $150.

Full course candidates for graduation will be furnished with the Pennsylvania Hospital ticket without charge.

The fee for the respective tickets may be paid to each member of the Faculty, or the whole amount may be paid to the Dean, who will issue a certificate which will entitle the student to the ticket of each Professor.

The SPRING COURSE for 1851 will commence about the 15th of March, 1851. Degrees will be conferred about the 16th of July, 1851.

For further information, inquire of

JAMES McCLINTOCK, M. D., DEAN,
No. 1 N. Eleventh St.

PHILADELPHIA, *June* 18, 1850.

GENEVA MEDICAL COLLEGE.

SPRING TERM, 1851.

The next Annual Course of Lectures in Geneva Medical College will commence on the First Wednesday of March, 1851, and continue sixteen weeks.

FACULTY OF MEDICINE.

CHARLES B. COVENTRY, M. D., Professor of Midwifery, the Diseases of Women and Children, and of Medical Jurisprudence.
JAMES WEBSTER, M. D., Professor of Anatomy and Physiology.
JAMES HADLEY, M. D., Professor of Chemistry.
CHARLES A. LEE, M. D., Professor of General Pathology and Materia Medica.
JAMES BRYAN, M. D., Professor of Surgery.
WILLIAM SWEETZER, M. D., Professor of Theory and Practice of Medicine.
GEORGE W. FIELD, Demonstrator of Anatomy.

Fees for the Course, $62, payable in advance. Matriculation Fee, $3. Graduation Fee, $20. Dissecting ticket, $5; which all candidates for the degree of M. D. are required to take. Graduates at this Institution, and all who have attended two full courses of the same, are admitted gratuitously. All other graduates of three years' standing are received gratuitously, with the exception of the Matriculation Fee.

CHARLES A. LEE, *Dean.*

N. B.—The profession will take notice that the Lecture Term in Geneva College will hereafter be changed from the Fall to the Spring of the year, to commence the ensuing March, 1851. This change in the time of delivering the Lectures is made solely with the view of accommodating that large class of Medical Students who cannot conveniently attend during the Fall and Winter months, but whose term of study expires in the Spring.

GENEVA, *March*, 1851.

NEW YORK UNIVERSITY,

MEDICAL DEPARTMENT.

The Faculty of the New York University take great pleasure in announcing that they have filled the two vacant chairs in their institution by gentlemen of pre-eminent standing in their respective departments.

Doctor ELISHA BARTLETT, Professor of the Institutes and Practice of Medicine in the Louisville University, and Doctor SAMUEL D. GROSS, Professor of Surgery in the Louisville University, having both resigned their Professorships in that institution, have been elected to, and accepted, the one the chair of Institutes and Practice of Medicine, the other the chair of Surgery in the University of New York.

In these selections, the Faculty have looked only at the great and permanent interests of their school; and they feel that these appointments, whilst they must secure the universal acceptance of the profession, will afford an earnest that the Institution will lose nothing of its former prosperity.

SESSION 1850–51.

The Lectures will commence on Monday, 21st day of October, and be continued under the following arrangement until the last day of February.

GRANVILLE SHARPE PATTISON, M. D., Prof. of General, Descriptive, and Surgical Anatomy.

MARTYN PAINE, M. D., Prof. of Materia Medica and Therapeutics.

GUNNING S. BEDFORD, M. D., Prof. of Midwifery and Diseases of Women and Children.

JOHN W. DRAPER, M. D., Prof. of Chemistry and Physiology.

ELISHA BARTLETT, M. D., Prof. of the Institutes and Practice of Medicine.

SAMUEL D. GROSS, M. D., Prof. of Surgery.

WILLIAM DARLING, M. D., Demonstrator of Anatomy.

The Faculty, it will be seen, have added the department of Physiology to the chair of Chemistry, and Professor Draper will in future, in addition to his regular course of Chemistry, give two evening lectures on Physiology. The advantage of this arrangement must be obvious to every one. The Professor of Anatomy will also deliver an additional lecture, in his department, at an evening hour.

In order to afford ample opportunities to their pupils of studying disease practically, the faculty have determined to organize three weekly cliniques.

1st. A Surgical and Medical Clinique, to be held every Saturday, by Prof. GROSS.

2d. A Medical and Surgical Clinique every Wednesday, by Professors BARTLETT and PATTISON.

3d. An Obstetric Clinique, under the charge of Professor Bedford. The most interesting diseases of women and children will be brought before the class, and fully lectured upon by the Professor. The class will also have an abundant supply of Midwifery cases, to be attended at the houses of the patients. For these cliniques, no extra charge will be made.

In addition to these means of studying disease, the New York Hospital, the Bellevue Hospital, the Eye and Ear Infirmary, the various Dispensaries and Infirmaries are all accessible to the students.

Clinical Instruction is given every day at the New York Hospital.

THE DISSECTING-ROOM will be open on the first day of October, and an ample supply of the material furnished.

Fee for the full Course of Lectures, $105. Matriculation fee, $5. Practical Anatomy, $5. Graduation fee, $30.

The Spring commencement will take place early in March, and the Summer commencement early in July.

Board from $2 50 to $3 per week.

Students, on arriving in the city, will please call at the College Building, 659 Broadway, and inquire for the Janitor, Mr. Polman, who will conduct them to boarding-houses near the College.

JOHN W. DRAPER, M. D., *Secretary of the Faculty,*
No. 380 Fourth Street.

COLLEGE OF PHYSICIANS AND SURGEONS, OF THE UNIVERSITY OF THE STATE OF NEW YORK.

The Forty-Fourth session of the College will be commenced on Monday, 14th of October, 1850, and continued until March 13th, 1850 (commencement day).

ALEXANDER H. STEVENS, M. D., LL.D., President of the College, and Emeritus Professor of Clinical Surgery.

JOSEPH M. SMITH, M. D., Professor of the Theory and Practice of Medicine and Clinical Medicine.

JOHN B. BECK, M. D., Professor of Materia Medica and Medical Jurisprudence.

JOHN TORREY, M. D., LL.D., Professor of Botany and Chemistry.

ROBERT WATTS, JR., M. D., Professor of Anatomy.

WILLARD PARKER, M. D., Professor of the Principles and Practice of Surgery.

CHANDLER R. GILMAN, M. D., Professor of Obstetrics and the Diseases of Women and Children.

ALONZO CLARK, M. D., Professor of Physiology and Pathology (including Microscopy).

CHARLES E. ISAACS, M. D., Demonstrator of Anatomy.

FEES.—Matriculation Fee, $5; Fees for the full Course of Lectures, $94; Demonstrator's ticket, $5; Graduation Fee, $25; Board, average $3 per week.

Clinical instruction is given at the New York Hospital daily, by the Medical Officers (Professor Smith being one of them), fee $8 per annum; at the Bellevue Hospital twice a-week, without fee (Professors Parker and Clark belonging to the Medical Staff); at the Eye Infirmary, without fee; and upwards of 1000 patients are annually exhibited to the class in the College Clinique. Obstetrical cases and subjects for dissection are abundantly furnished through the respective departments.

The Annual Commencement is held at the close of the session; there is also a semi-annual examination on the second Tuesday of September. The pre-requisites for graduation are—21 years of age, three years of study, including two full Courses of Lectures, the *last* of which must have been attended in this College, and the presentation of a Thesis on some subject connected with Medical Science.

In addition to the regular Course, and not interfering with it, a Course of Lectures will be commenced on Monday, 30th September, and continued until the 14th October. This Course will be *free*.

R. WATTS, JR., M. D., *Secretary to the Faculty.*

College of Physicians and Surgeons,
67 Crosby Street, New York.

MEMPHIS INSTITUTE.

MEDICAL DEPARTMENT.

The regular course of Lectures in this Institute will commence on the First of November, and continue until the last of February.

PROFESSORS.

J. CONQUEST CROSS, M. D., Prof. of the Institutes of Medicine and Medical Jurisprudence.

W. BYRD POWELL, M. D., Prof. of Cerebral Physiology, Medical Geology and Mineralogy.

R. S. NEWTON, M. D., Prof. of Surgery.

H. J. HULCE, M. D., Prof. of Theory and Practice of Medicine.

J. A. WILSON, M. D., Prof. of Obstetrics and Diseases of Women and Children.

J. KING, M. D., Prof. of Materia Medica and Therapeutics.

Z. FREEMAN, M. D., Prof. of Anatomy.

J. MILTON SANDERS, A. M., M. D., Prof. of Chemistry and Pharmacy.

CLINIQUE LECTURERS.

Medicine—Prof. H. J. HULCE.
Surgery—Prof. R. S. NEWTON.
Anatomical Demonstrator—Z. FREEMAN, M. D.

The fees for a full course of lectures amount to $105. Matriculator's, $5. Demonstrator's Fee, $10. Graduation, $20.

Those desiring further information will please address their letters (post paid) to the Dean, Memphis, Tenn.

R. S. NEWTON, *Dean of the Faculty.*

FISKE MEDICAL PRIZE QUESTIONS FOR 1850–51.

At the annual meeting of the Rhode Island Medical Society held in Providence, June 26, 1850, the Trustees of the Fiske Fund for the year 1849–50, viz., Drs. S. Augustus Arnold, Geo. Capron, and Hiram Allen, announced that the Prize of Fifty Dollars offered in 1849 for the best Dissertation on *The History of Medical Delusions of the Present and of Former Times*, had been by them awarded to Worthington Hooker, M. D., of Norwich, Conn.

The following subjects are proposed for the Premiums of 1850–51, viz.—

1. *Homœopathy, so called; its history and refutation.*

2. *Displacements of the Uterus; their history, causes, constitutional effects, general and local treatment.*

It is desirable to have the papers on the former subject written in a popular style, the successful one being intended for general circulation; those on the latter should of course assume a more strictly professional character.

For the best dissertation on each of the subjects, should an award be made, the Trustees for 1850–51 will pay the sum of *Fifty Dollars;* the award to be announced at the annual meeting of the Rhode Island Medical Society, to be held at Providence on the last Wednesday in June, A. D., 1851, or through the columns of the *Providence Journal* and *Newport Herald of the Times*, as soon thereafter as practicable.

Every competitor for a premium is expected to conform to the following regulations, viz:—

1st. To forward to one of the Trustees, on or before May 1, A. D. 1851, free of all expenses, a copy of his dissertation, with a motto written thereupon, and also accompanying it a sealed letter, having the same motto inscribed upon the outside, and his name and place of residence within. Both dissertation and letter must be written in a clear and legible manner.

2d. Neither a name nor any other mark shall be put upon the dissertation, or any accompanying paper (save in the manner above designated), whereby the author will be known to the Trustees.

3d. Previously to receiving the premium awarded, the author of the successful dissertation must transfer to the Trustees all his right, title, and interest in and to the same, for the benefit of the Fiske Fund.

The Authors of the unsuccessful Dissertations must apply for them to the Trustee to whom they were sent, within three months after the Annual Meeting of the Society; otherwise they will be disposed of in such manner as the Trustees may deem advisable.

Trustees of the Fiske Fund for 1850–51.

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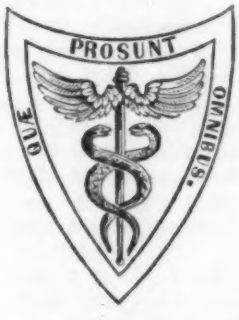

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